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ABSTRACT

The final report examines the three year Riverton School District 25 Occupational K-14 Project, a pilot program in Wyoming which developed a comprehensive approach to occupational education for public schools. Four phases were developed, emphasizing: attitude (k-6); career orientation (7-8); career exploration (9-10); career preparation (11-14). Curriculum development and course expansion were teacher directed and extensive, with community involvement in the form of citizen advisory committees. Third party evaluations for each year of the project are presented, emphasizing student behavior and discussing project methodology, data, curriculum development, project phases, and recommendations. Sixteen tables supplement the discussion. A vocational-academic dichotomy, poor guidance programs, and a lack of consistently enforced priorities are noted. Half the document is taken up by appended materials which include: occupational charts; a project booklet (46 pages) and addendum; project correspondence; Learning Activity Packet (LAP) catalog, arranged by grade level, and papers concerning their writing; Teacher Resource Unit (TRU) information; papers regarding project determination, philosophy, career decision-making processes, and instructional objectives; reprint of an article in the Wyoming Educator; and student interviews. (LH)

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FINAL REPORT

Project No. 0-361-0023
Grant No. OEC-0-71-9579 (361)

The Development and Demonstration of a Functional Model System of Occupational Education in Wyoming Public Education, K-14

Exemplary Project in Vocational Education
Conducted under Part D of Public
Law 90-567

Paul L. Sizemore
Wyoming State Department of Education
Capitol Building
Cheyenne, Wyoming 82001

January 31, 1974

U.S. DEPARTMENT OF HEALTH
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The Project reported herein was performed pursuant to a grant with the Bureau of Adult, Vocational, and technical Education, Office of Education, U. S. Department of Health, Education and Welfare. Grantees undertaking such projects under government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent Office of Education position or policy.

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January 31, 1974

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5. SUMMARY OF THE REPORT

A. Time period covered by the report.

The project's initial planning stages stem from September of 1970; the most recent evaluation results reported herein are based on testing conducted in November of 1973.

B. Goals and objectives of the project.

The project was planned originally to take into consideration the following goals:

(1) To provide students interacting with the program with skills, knowledge, competencies, and attitudes necessary for placement in the labor market.

(2) To provide placement opportunities as part of the finale to the natural process of education for students in specified jobs or job clusters as well as a placement for additional education.

(3) To provide a curriculum balance so as to correct educational deficiencies that prevent persons from participating fully in the exploration and orientation of the occupational world of work, and to develop realistically individual capabilities and personalities to the fullest.

(4) To provide a coordinated and integrated program which is all-inclusive of the people being served including those with special needs.

(5) To provide demonstration that occupational education is continuing, pervasive, and consistent with all forms and types of education, and is in reality not part of a dichotomy for education. It is the total educational process.

(6) To bring about positive change in self-concept and in personal and social adjustment, primarily in the students of teachers who are

involved in the process of special instructional practices and secondarily to the teachers themselves. The concept upon which the project is based is that of using a comprehensive approach to education, K-14, whereby the changes of attitude toward work of students and the specified instructional practices of their teachers and counselors becomes an inherent part of the curricular emphasis.

C. Procedures followed.

The new emphasis on a total program began in kindergarten with an attitude development phase which continued through the elementary grades (K-6). Desirable attitudes such as a desire to work, responsibility, loyalty, dependability, appreciation for quality, dignity of work well done, and pride in accomplishment, were emphasized. This phase did not call for additional curricula, but provided a new emphasis in the existing curriculum toward the development of positive attitudes regarding the world of work.

A second phase of the comprehensive program was to provide career orientation at the seventh and eighth grade levels. This phase provided all students with information about occupations such as the preparation necessary, openings, salary, job-entry levels, education, job interests, aptitude evaluation, appreciation for the work of others, community resources, interviewing, applying for a job, and personal grooming. Wyoming Occupational Resource Kits (W.O.R.K.) were developed as part of the orientation phase so as to supply information on all jobs so that students were able to discuss these with their parents, and to develop a background upon which to draw later.

A third phase called for career exploration at the ninth and tenth

grade levels. Students were given an opportunity to explore and gain understanding of as many of the occupational clusters as possible, including the office occupations, construction occupations, hospitality occupations, transportation service and repair occupations, agriculture production and related occupations, health occupations, and family and community service occupations.

The fourth phase called for career preparation during the eleventh and twelfth grades and the thirteenth and fourteenth years of the community college. Programming in any of the eleven cluster areas mentioned above was based upon community needs. Cooperative education programs were used during this phase. This method of instruction had often proved successful in closing the gap between school and employability. These community classroom programs were part of public school and community college systems.

Post-secondary and adult continuing-education programs were basically the responsibility of the community college. Comprehensive career preparation programs at the grade thirteen and fourteen levels were designed to provide students with the opportunity for mobility among various programs.

Those students whose selected occupation required such, were prepared to continue their education at the university level. All students were to be prepared to go eventually into the world of work.

In structuring the general design for this proposal, the problems presented by existing programs, rural school predominance, curriculum lag, drop-outs, guidance and counseling function neglect, non-integrated and unarticulated fragmented programming, the lack of available business and industries, the lack of faculty awareness, and geographical and distance factors were all considered carefully.

D. Results; accomplishments.

In the "Body of the Report" following, there is an extensive discussion of the project's results and accomplishments. The discussion in the present section will be limited to the mention of a very few of the project's accomplishments -- primarily, those which lend themselves to quick and easy explanation.

By August of 1973 it was apparent that the local district had produced a cadre of trained consultants who were capable of conducting any training activities that would be necessary in the future. This was evidenced by the fact that a July 1973 workshop employed local consultants entirely, with the exception of one out-of-state specialist contracted for one day. This was highly significant because it meant that the skills necessary to continue the program were contained within the district. It was evident that when federal funding eventually ceased, this program would not falter for lack of skilled personnel.

In addition to the Wyoming Occupational Resource Kits previously mentioned, local staff members developed a qualitatively and quantitatively impressive reservoir both of Learning Activity Packets (LAPs) and of Teacher Resource Units (TRUs). Another major accomplishment included the development of charts relating academic subject matter to occupations. (See Appendix A).

The high school's building trades class began, during the winter of 1972-73, the construction of an entire house as a year-long project. A lot was purchased by the school district and materials for the project were supplied by the district at a cost of $15,000. Upon completion the house was sold and the district reimbursed for its expenditure, and the

building trades program kept the profits. The house was completed on schedule and sold for $24,500.

During the summer of 1973 the emphasis began to shift from curriculum development toward the heightening of community and local school support for project activities. Specifically, citizen advisory committees were organized in the areas of engine repair, allied health, food services and business and office occupations. These committees functioned in the reviewing of curriculum material and assisting in development.

The district constructed a career center, designed to house the laboratory aspects and related classes of the career program, at an estimated cost of $1,490,000. The following programs were selected for housing in the building: Food Services, Auto Mechanics, Body and Fender, Building Trades, Graphics, Welding, Agri-Business, Cosmetology, Drafting, Office Occupations, and Diversified Occupations.

In response to persistent requests, a Career Education booklet was compiled for visitors. (See Appendix B). This comprehensive booklet contained most materials which had previously been published, logically arranged to explain the development and intent of the project.

E. Evaluation.

The basic questions of evaluation were directed toward student behavior--first, did change occur, and second, could the change be attributed to the program. The design for the project relied heavily on the prediction method, both because of its relative economy, and because of the inherent errors common to control group designs, such as prior non-equivalence of groups and differential treatment, which would have been unusually difficult to control in Wyoming.

The evaluation consisted of two major phases. The first was in progress for the duration of the project and involved assessing each objective periodically in order to determine the amount of measured gain. Next, at the termination of the project, selected variables apparently having the greatest influence were to be entered in a regression analysis formula.

Instruments developed for use in the evaluation process included the "survey of occupational knowledge," the "attitude-toward-occupational-education scale," the "rating scale for students' career choices," and the "student information form."

Assessment of process objectives was accomplished by a team visit of four experts. The assessment of these objectives called for subjective opinions by a group of qualified outsiders. The members of the team were selected on the basis of recommendations either by State Department of Education personnel or by Riverton project personnel or both. The team spent approximately two-and-a-half days performing the subjective evaluation.

A sample of one-hundred and sixty-five students was selected from the entire district by systematic selection. During the second year of the evaluation it was necessary to select an additional one-hundred students because of an unexpectedly large number of students lost to the sample, primarily because of their parents having moved out of the district. In the analyses, these two samples were kept separate.

F. Conclusions and recommendations.

In general the evaluation of this program revealed certain significant finding. First, the curriculum development processes were excellent and could serve as models for future development both in this district and in other districts which may choose to emulate this program.

Second, the elementary awareness program was equally outstanding and could serve as a model for a similar program in any part of the country. Third, the guidance program as related to Career Education has been weak or, in some instances, virtually non-existent. Fourth, a dichotomy between academic and vocational subjects, orientation, and philosophy was strong when the program began and still remains strong. There are, regrettably, indications that this dichotomy will become even stronger. Finally, the administration of the project has, in most cases, been outstanding. These conclusions are based on observations by the evaluator and by other evaluators, on interviews with students, faculty and staff, and on test results and other quantitative information.

Weaknesses and strengths in the program reflected in the findings just noted above, cause the evaluator to propose the following recommendations: (1) The curriculum development processes of the program could well be copied by any school district. The staff training materials and the process of utilizing community input are outstanding. The district should endeavor to maintain and expand this phase of the program. (2) The elementary awareness program, both content and process, has justly received national recognition. This phase of the Career Education program should also be maintained, by assigning a full-time staff member the task if necessary. (3) In regard to counseling, a clearer role definition is mandatory. A counseling component is essential to a Career Education program. The administration of the district, as well as its school board, should recognize this and plan accordingly. Then counselors' duties should be allocated to their time available, and new strategies, techniques, and materials should be made available for them where needed. (4) Since the dichotomy between academic and vocational subjects is widening, the evaluator feels very strongly that the district

administration and school board should carefully examine priorities, decide on their approach to Career Education, and then take a stand and require all staff members to follow established priorities. If the Career Education program described in the original proposal is to succeed there must be support from the top levels of administration, and there must be a corresponding allocation of duties, time, and commitment.

6. BODY OF THE REPORT

A. Problem Area

In Wyoming the development of occupational education has been more limited than in most states. This slow development has been caused by at least three related factors: (1) sparce population, (2) high relative per pupil costs of education, and (3) limited industrial and economic development. This third factor has probably been responsible, more than any other, for the low degree of awareness among the populace of the urgent need for occupational education.

Like many of the nation's agricultural states, Wyoming has in recent years found its farmers and ranchers facing reduced manpower needs. Consequently, young people began leaving rural areas for communities where occupational opportunities were more varied. Unfortunately, many of these young people lacked an education which would equip them to compete successfully with graduates of comprehensive educational systems.

Researchers who wrote about this kind of problem within the context of career education found disagreement among educators in regard to aims and objectives. Bush and Talagan (1968) found a diversity of aims and purposes, but they noted that the objectives of general education were becoming or had become less distinguishable from occupational education.

Other writers addressed the role of guidance in occupational education. One example of this view may be seen in the works of Bateson and Stern (1963) who stressed the importance of adequate guidance. They maintained that the gap between the world of work and occupational education can be bridged if the objectives of occupational guidance is kept in mind. They proposed

proper exploratory experiences in the curriculum in order to prepare the student to deal more effectively with the problem of occupational choice.

Kaplan (1967) conducted a study which determined that work-study programs should stress individually oriented occupational education with supportive emphasis on academic skills.

In 1967 Garbin conducted a study of problems faced by students in their transition from high school to work. Information was supplied by occupational educators, who provided data identifying certain problems faced by youth in adjusting to work. Four specific adjustment problems of workers were identified as being the most apparent: (1) unrealistic aspirations and expectations, (2) poor attitudes toward work and working, (3) lack of responsibility, maturity and self discipline, and (4) lack of knowledge of the actual demands of work.

Many Wyoming students have been educated in very small, sometimes understaffed schools. While the level of education has been excellent in many cases, its scope has been quite narrow because of the obvious limitations placed upon extremely small faculties. Many of Wyoming's schools have been, and still remain, isolated from industrial and technological environments. Families, teachers, and their communities often seem unaware of the need for emphasis on occupational education, particularly of the role of attitude development in that process. For example, many rural young people in Wyoming have never held part time or summer industrial jobs and do not know the requirements of different occupations, or the procedures to follow in obtaining a job. In both rural and small urban areas, many young people have lacked positive direction from parents, teachers, or counselors. Also, they have never seen friends and relatives adapt successfully to an

industrial environment. All of these factors have imposed barriers to the positive development of attitudes and knowledge, of competencies and skills, and, employability.

The content and sophistication of traditional academic and vocational programs have generally been unsuitable for most students because they have been focused on the extremes---the values and behavior patterns either of college bound students or of potential drop-outs. The development of vocational, technical education in Wyoming since the Smith-Hughes Act of 1917 has, in recent years, reached a point of diminishing returns. The predominately agricultural economy once created a need for vocational, agricultural and consumer homemaking education. Programs in these areas had been developed, but since little demand existed, few other occupational programs had been established. These traditional programs lacked objectives which paralleled the needs of today's evolving technological system.

It became apparent that an expanded system of occupational education was needed in the State of Wyoming. It also became apparent that a unique approach was necessary in order to eliminate isolated courses and provide a comprehensive system which would prepare young people for the broad spectrum of changing work opportunities. The original project writers held to the view that all education should be "occupational" education. Accordingly, the emphasis of this project was from the first on planning and demonstrating this comprehensive concept of occupational education.

The idea that the only "good" education is a four year college degree had, unfortunately, been widespread throughout the state. Some occupations do, of course, require a four-year college education; others require a two-year education; others, several months; and others,even less. It had become time to plan education for all children. Having become aware of the

importance and necessity of expanded career education, the state's citizens and educators combined to form a broad base of public support for program implementation.

B. Goals and Objectives of the Project

The purpose of the project was to plan and demonstrate an efficient and effective comprehensive approach to occupational education in the State of Wyoming. This project was planned for students interacting at all levels of public education, kindergarten through grade 14. Although the project was specific to the State of Wyoming, it was planned so that the results could be applied with minor modifications to any area in the United States. The project was to be a prototype, verifying the effectiveness of methods of conducting career education programs.

The project was planned originally to take into consideration the following goals (p. 11 of the proposal):

(1) To provide students interacting with the program with skills, knowledge, competencies, and attitudes necessary for placement in the labor market.

(2) To provide placement opportunities as part of the finale to the natural process of education for students in specified jobs or job clusters as well as a placement for additional education.

(3) To provide a curriculum balance so as to correct educational deficiencies that prevent persons from participating fully in the exploration and orientation of the occupational world of work and develop realistically individual capabilities and personalities to the fullest.

(4) To provide a coordinated and integrated program which is all-inclusive of the people being served including those with special needs.

(5) To provide demonstration that occupational education is continuing, pervasive, and consistent with all forms and types of education and is in reality not part of a dichotomy for education. It is the total educational process.

(6) To bring about positive change in self-concept and in personal and social adjustment, primarily in the students of teachers who are involved in the process of special instructional practices and secondarily to the teachers themselves. The concept upon which the project is based is that of using a comprehensive approach to education K-14 whereby the changes of attitude toward work of students and specified instructional practices of their teachers and counselors becomes an inherent part of curricular emphasis.

While the project was in progress, plans for using this approach were developed from currently available data from research projects in the Rocky Mountain area and from other sources as well. The project also attempted to provide significant data for teacher education institutions. The original plan called for wide use of curriculum workshops, development of packaged curriculum kits for teacher use, cooperative education instruction techniques, learning labs, personalized instruction and programmed instruction.

The pilot project when operational was designed to provide demonstration activities designed to: (1) develop sufficient acquaintance with a problem area to permit the formulation of a procedure for solution,

(2) develop prototype instructional emphasis, (3) display and demonstrate the feasibility and desirability of articulation, techniques and programs which may not yet be in general use, with the intent of stimulating and assisting in the widespread adoption of that which is considered successful, and (4) develop new knowledge, or use existing knowledge in new application, to design activities organized to meet problems of motivating and educating the entire spectrum of potential students K-14 for stable and gainful employment. These objectives were refined and made further operational in an addendum to the original proposal. (These objectives are given in Appendix C).

C. Description

Project Design

Whether a child goes to a university, a community college or directly into the world of work following high school, the fact remains that one day he will work. In order to be successful, all children need favorable attitudes about the world of work and job-entry skills. Prior to the implementation of this project, leaders in the field were agreed that "vocational" education as it had been perpetuated in the past with a goal simply of providing job-entry skills, was apparently not a complete answer.

This proposed project differed from traditional programs or procedures in that it was complementary, not supplementary, to other elements of the educational program of the school. It proposed to create a developmental program of occupational education from elementary through post-secondary and adult education which could serve as the core around which a unified system of education could be constructed. It also differed from past efforts in that:

(1) The main objective underlying this proposed project was that of making occupational education relevant to all populations it was expected to serve.

(2) Because it was for all persons, it included meeting the needs of the "disadvantaged."

(3) It would not restrict development of skills.

(4) Inherently, teachers would become more cognizant of individual needs of students.

(5) It provided a new image to parents---that of occupational education for "their" child, not just for "someone else's" child.

(6) It sought immediate, rather than far-distant, curriculum, and

(7) It provided a stimulus for new teaching methods.

As previously noted, the purpose of this proposed project was to demonstrate a comprehensive occupational education approach in Wyoming's public schools. (See Appendix C). The new emphasis on a total program began in kindergarten with an attitude development phase which continued through the elementary grades (K-6). Desirable attitudes such as a desire to work, responsibility, loyalty, dependability, appreciation for quality, dignity of work well done, and pride in accomplishment, were emphasized. This phase did not call for additional curricula, but provided a new emphasis in the existing curriculum toward the development of positive attitudes regarding the world of work.

A second phase of the comprehensive program was to provide career orientation at the seventh and eighth grade levels. This phase provided all students with information about occupations such as the preparation necessary, openings, salary, job-entry levels, education, job interests,

aptitude evaluation, appreciation for the work of others, community resources, interviewing, applying for a job, and personal grooming. Wyoming Occupational Resource Kits (W.O.R.K.) were developed as part of the orientation phase so as to supply information on all jobs so that students were able to discuss these with their parents, and develop a background to draw upon later.

A third phase called for career exploration at the ninth and tenth grade levels. Students were given an opportunity to explore and gain understanding of as many of the occupational clusters as possible, including the office occupations, electricity-electronics occupations, distributive occupations, construction occupations, hospitality occupations, transportation service and repair occupations, agriculture production and related occupations, health occupations, and family and community service occupations.

The fourth phase called for career preparation during the eleventh and twelfth grades and the thirteenth and fourteenth years of the community college. Programming in any of the eleven cluster areas mentioned above was based on community needs. Cooperative education programs were used during this phase. This method of instruction had often proved successful in closing the gap between school and employability. These community classroom programs were part of public school and community college systems.

Post-secondary and adult continuing-education programs were basically the responsibility of the community college. Comprehensive career preparation programs at the grade thirteen and fourteen levels were designed to provide students with the opportunity for mobility among various programs.

Those students whose selected occupation required such, were prepared

to continue their education at the university level. All students were to be prepared to go eventually into the world of work.

This pilot project designed around the four phases described above was intended to be a demonstration and feasibility activity designed to: (1) pioneer program innovations, (2) display and demonstrate the feasibility and desirability of new ideas, techniques and programs which were not in general use, with the intent of stimulating and assisting in the widespread adoption of that which was considered successful, and (3) develop new knowledge, or use existing knowledge in new application, to design activities organized to meet problems of motivating or educating all who interact with the program.

In structuring the general design for this proposal, the problems presented by existing programs, rural school predominance, curriculum lag, drop-outs, guidance and counseling function neglect, non-integrated and unarticulated fragmented programming, the lack of available business and industries, the lack of faculty awareness, and geographical and distance factors, were all considered carefully.

Prior to site selection, some suitable curriculum emphasis techniques, instructional materials, and teaching procedures necessary for implementation of an awareness program, were tentatively developed. Graduate students in the areas of elementary education, social studies, language arts, and science-mathematics assisted the Elementary Program Consultant from the State Department of Education in the development of attitude kits about the world of work. Elementary teachers, principals, and State Department of Education personnel worked cooperatively in a workshop to develop the necessary kits. Concurrently, personnel from the Employment Security Service,

local guidance counselors, teacher-educators, secondary and junior high school teachers and principals, as well as State Department of Education staff began development of the career orientation and career exploration phases with emphasis also on the development of strategies for changing career placement and counseling techniques. As a third essential procedure, classroom activities for a variety of occupations were developed by secondary and community college personnel (grades 11-14), teachers from each occupational discipline, and by teachers of English, math, science, and social science. The purpose of this effort was to provide materials for the career preparation phase of the total program by searching, analyzing, and combining recent information from existing programs, both secondary and post-secondary.

Following curriculum development, the thrust of project activities was to develop new attitudes in teachers toward work and occupational education. The necessary tools for implementation of the model program were provided for teachers and staff through in-service workshops designed to orient them to the model program. Through workshops for faculty representing all levels, elementary through post-secondary, emphasis was placed both on the use of cooperative education as an instructional method and on the necessary continuity of a complete K-14 program.

The next step was to select a suitable site to establish a functional occupational education model program including classroom instruction and the use of the cooperative education method of instruction. This site served as the "laboratory" for demonstration use of the curricular emphasis techniques, instructional materials, and teaching procedures. This was an effort through which ways and means of alleviating instructional

and curricular problems through a systematic use of new or adapted techniques and institutional arrangements were studied.

The final step called for evaluation of the project and the formulation of recommendations for implementing and funding other similar programs in the State of Wyoming.

Site Selection

The project directors worked with the State Department of Education staff and the program development specialist to assist in identifying and selecting the geographical location best qualified to implement the model project. The project director and the program development specialist were employed approximately three months prior to the anticipated date for starting the pilot program. The State Department of Education staff agreed on the need for flexibility in scheduling, for selection of staff members, for students in the program, and for facilities and equipment. They also agreed that the school selected for this proposal should be located geographically so that the entire curriculum K-14 would be located within a reasonable walking distance (three to five miles). There were found to be only seven geographical locations within the state which qualified for selection. The current enrollment was not necessarily a limiting factor, nor was distance from the State Department of Education offices, although both were considered in site selection. All currently enrolled students, as well as drop-outs, were expected to participate in the program.

In October, 1970, a letter was sent to each of the seven school districts having a neighborhood community college. This letter solicited the interest of each, as well as a bid for participation in the exemplary project. (The contents of the letter can be found in Appendix D).

Letters of interest in participation in the project were received from five of the seven districts having community colleges. A screening committee was established to evaluate the school districts' and community colleges' bids for participation. Members were:

(1) Dean P. Talagan, Chief of Instructional Services,
State Department of Education

(2) Paul D. Sandifer, Chief of Research and Planning,
State Department of Education

(3) Paul N. Peters, Director, Exemplary Project,
State Department of Education

(4) Bruce Perryman, Director of Occupational Education Division,
State Department of Education

(5) Vincent Sindt, Director, General Education,
State Department of Education

(6) Joan Catmull, English Consultant,
State Department of Education

(7) Kenneth Philpott, Director, Industrial Education,
State Department of Education, and

(8) David Farrari, Program Trainee Specialist,
State Department of Education

On November 7, 1970, upon final approval by the Wyoming State Board of Education, School District #25 of Riverton and Central Wyoming Community College were named to constitute the demonstration site for the three year model project.

Riverton, a community of approximately 8,000 and a predominately agricultural area, is completely surrounded by the Wind River Indian Reservation. Its School District #25 and Central Wyoming Community College best represented the model schools, and indicated a strong willingness to cooperate in all aspects of the program.

Methods and Materials

Before the time of site selection, the use of certain methods, materials, and procedures had been tentatively planned by the Project Director and the State Department of Education staff. The district agreed to conduct the project within these limits, and plans were deliberately written in general terms to allow flexibility. These general plans fell into two catagories --the counseling program and curriculum development.

Plans for the counseling program grew out of the fact that the United States Employment Service, among others, had recognized finally that simple job advertising or advising were inadequate methods for use in facing its new challenge.

Specifically, the guidance and counseling program within the school was planned to assist the student in:

(1) clarification of his goals,

(2) providing him knowledge about the labor market,

(3) helping him evaluate his qualifications and abilities in terms of job opportunities,

(4) the development of flexibility needed for adjusting to a fluctuating society, and

(5) special assistance in adjusting to and retaining a job.

The guidance counselors were to administer a full-scale testing program designed to assess occupational interest and ability, to provide for individual counseling, and to acquaint the instructional staffs with the occupational guidance program. They were to assist in determining the interests and abilities of the individual students so that programs could be designed to meet students' needs.

Additional guidance and counseling activities designed to include all students into the occupational program were to include the development of strategies for making use of school and community resources in promoting career development for students, and cooperation with occupational educators to provide a more coordinated program for students.

A strict guidance and counseling organizational pattern was needed for students not previously enrolled in occupational programs per se, to provide specific education in job-entry skills prior to leaving school. Plans called for wide use of simulated or direct work experiences as a means of assisting students to "experience" work roles.

Despite increasing enrollments in colleges and universities, at least 75 percent of American youth had been leaving the formal school system to enter the world of work before achieving a B.A. degree. In order to make specific provision then, for students not previously enrolled in occupational programs, very highly intensified job-entry skill development seminars were to be planned for all students interested in, and needing, such education. These seminars were to focus on minimum job-entry level skills, and development of attitudes.

It was apparent that to obtain adequate teacher involvement, the counselors should work closely with the instructional staff. This required that counselors and teachers jointly identify particular goals for particular students, plan more flexible access to certain courses, and broaden the course offerings to enable the students to reach these goals.

Finally, the school counselor, in addition to his occupational guidance and counseling functions, should plan a role in placement and follow-up.

The curriculum development activities were based upon the fact that it would be more realistic to study the most efficient uses of the many available methods rather than to attempt development of a "new" method of teaching.

Initial plans for project activities emphasized the development of suitable courses of study, curricular techniques, instructional materials, and teaching procedures necessary for the implementation of the model program. This included development of both "cognitive" and "affective" units related to the world of work to be incorporated into established courses of study. Materials developed were to be designed so as to explicate necessary teacher techniques. The project staff was to develop and use learning labs, curriculum packages designed around career orientation and career exploration, and the results of previous research and development projects in which similar materials and methods were developed and tested.

As pointed out previously, teacher-coordinated cooperative education (work experience) was to be developed jointly with businessmen in the community to allow students to gain experience on a job, develop a higher degree of skill and ability, and to observe and improve various work habits and attitudes. This supervised work experience was to be combined with the classroom and laboratory instruction.

The laboratory technique was to be used in teaching both individuals and groups. Audio-visual aids and field trips combined with laboratory experiences were to be used throughout the instructional program.

D. Results and Accomplishments

For ease in discussion, these results and accomplishments have been

organized into several major sections. These sections are staff training, development of curricular materials, course offerings developed, specific student outcomes, and finally a summary of major chronological events.

Staff Training

This section includes field trips, workshops and other endeavors undertaken entirely to orient the staff or improve their skills in areas related to Career Education. These events are presented in chronological order.

As early as March 1971 it was the stated intent of the State Department of Education to establish a trained cadre of teachers and administrators capable of providing a nucleus around which the model of Career Education could expand in the district. This cadre was to have the responsibility of providing leadership to other teachers. It was also to function as a staff of experts upon which other districts in Wyoming could draw to implement their own models of Career Education.

A primary objective in the early phases of the project was to establish changes in teacher attitudes toward work and occupational education. This also necessitated providing the tools for implementing the model program through in-service orientation workshops for teachers and for the administrative staff at all grade levels. Emphasis was placed on changing teachers' attitudes, developing a cohesive K-14 program, and the using of cooperative education as a means of instruction. Initial workshops focused on attitude change through the following activities:

(1) On February 9-11, 1971, an attitude development workshop was conducted for fifteen elementary teachers from the Riverton School District

by Mrs. Lee Laws of the Texas State Department of Education. In this and subsequent workshops some basic objectives developed:

(a) To promote the students' understanding of various occupations.

(b) To provide occupational information.

(c) To explore the world of work.

(d) To assist the student in finding out about himself.

These objectives, as developed in the workshops, were believed to be part of the preparations for decision-making by students. It may be said that such an attitude program at the elementary level was designed to lay the groundwork for later occupational planning by the student.

(2) At a continuous progress workshop conducted February 17-18, 1971, Mr. Robert Reeder, Superintendent of Lowell Area Vocational School, Lowell, Mass., discussed the advantages offered by learning activity packets (LAPs) in a continuous progress program. Mr. Reeder emphasized the following concepts:

(a) The traditional lock-step curriculum should be increasingly replaced with a performance curriculum so that the educational gaps inherent in current programming practice can be removed from class offerings.

(b) Through the medium of the LAPs the student will be given the opportunity to work with teachers in large groups and small groups as well as receive guidance and consultation while working independently in the various resource centers.

The entire staff and administration of School District #25 and Central Wyoming Community College participated in this two-day workshop.

(3) A behavioral objective workshop was presented February 22-24, 1971, for the total teaching staff and part of the administration of the school system. Three consultants from California, Dr. Robert Adkison, David Glenday, and W. Lloyd Johns conducted the three-day training session which had as the major theme the writing and use of behavioral objectives through an individually paced programming of eight learning activity packages.

By the end of the three-day session each teacher had become competent in writing instructional objectives for his own classes.

(4) During the summer of 1971, a career orientation workshop was conducted for 15 local staff members by Dr. Robert Williams, of the Oakland, California, Unified Schools. Dr. Williams stressed both the importance of career development at the junior high level and the fact that career development is a life-long process.

The programs of all four above mentioned workshops were divided into developmental units which were to be an integral part of the student curriculum in grades 7, 8 and 9.

Grade 7 - Self appraisal and introduction to the world of work.

Grade 8 - In-depth investigation of the world of work.

Grade 9 - Investigation of specific vocations.

The purpose of this three-year unit was to help junior high students to develop positive attitudes towards work and society, to analyze personal-psychological and social reasons for working, and to explore vocational interests and aptitudes. By developing proper attitudes toward school work and learning, and toward the significance of school subjects and basic skills for vocational awareness, the student was expected to gain a

better understanding of the relationship of school work to vocations.

During the winter of 1971-72, Steve Campbell of the Riverton school system conducted a series of ten workshops on the subject "How to Incorporate Occupational Units into Regular Classroom Work." These workshops were for selected elementary teachers and attendance was voluntary. During the workshops, teachers developed career-oriented materials for use in their own classrooms.

By February, 1971, the project staff had completed a fifty-five minute video tape entitled "How to Implement a Career Program on the Elementary Level." Copies of this tape were sent on request to interested districts. It was also used locally for orientation of visitors.

A major method of developing staff awareness, knowledge, and skills was through field trips to business and industrial centers. By February, 1972, a series of field trips for faculty and administrative staff had been planned to business and industrial sites and to similar exemplary projects in other states. Different groups of approximately ten teachers each, who were involved in occupational units, were to participate in each trip. These visits were intended to provide teachers with background information on a variety of occupations and methods. The plan was that these teachers would then incorporate their newly acquired knowledge into their own classroom activities.

The first of these trips was conducted in February, 1972, when ten teachers active in teaching occupational units, an elementary principal, and the project director made a trip to Denver. Industrial sites visited were:

The Westinghouse Consumer Repair Center
The Coors Brewery and Porcelin and Canning Division
Frontier Airlines

Samsonite Corporation
Public Service Company of Colorado
Security Life of Denver

Interviews with personnel at these sites were taped and 35mm color slides were taken. These were incorporated into units developed for classroom use by teachers.

Other trips, patterned after the Denver trip, were planned to: (1) Bismarck, North Dakota, to an occupational project directed by Larry Selland, Assistant State Supervisor of Agricultural Education, (2) Helena, Montana, to the State Exemplary Program, and (3) Salt Lake City, Utah, to various business and industrial sites.

By May, 1972, a team of representatives from Riverton School District #25, including a representative from an architectural firm, a welding instructor, and an auto mechanics instructor visited the sites of other occupational projects in Helena, Montana, and Missoula, Montana. The purpose of this trip was to gather information on the type of facilities needed to carry on effective programs. They observed appropriate floor plans, safety procedures and other factors which relate architectural requirements to curricular requirements.

During the period immediately preceding May, 1972, many activities designed to promote staff development and program planning were sponsored by the project.

On May 9, 1972, a regional career conference was held in Denver, Colorado. This conference was attended by all the junior high counselors and by one senior high counselor from this district, and by the director of the project.

Prior to May 1972, the project director and the occupational counselor had traveled to various occupational and technical centers in Montana,

including Butte, Billings, Helena, and Missoula. The purpose of this travel was to survey projects and staffing procedures in various programs. They analyzed with particular interest the programs in food services and building trades.

A workshop on writing Learning Activity Packets was conducted during the summer of 1972. This workshop lasted for four weeks and carried four semester hours of college credit. It paid a stipend of $75.00 per week plus tuition and fees. Conducted in cooperation with the University of Wyoming and planned to accommodate fifty participants, its first priority was for teacher applicants within the Riverton district, but the workshop was opened to teachers from outside the district since all available positions were not filled. The consultant leader for this workshop was Dr. David Glenday of Stanislaus State College. The director was Mr. Richard Lutz, Coordinator for Distributive Education, State Department of Education. The sessions were designed to accommodate teachers having a wide range of prior experience with respect to both behavioral objectives and LAP writing. Teachers became involved in inter-disciplinary activities and all wrote at least three LAPs. Dr. Glenday wrote two papers explaining LAP writing. These papers and a catalogue of LAPs were made available for dissemination and for future use in other workshops. (See Appendix E and F).

Other staff developments during the summer of 1972 included workshops for teachers within Riverton and other districts.

An in-service program was conducted June 5-9 by Mrs. Joan Graf of Riverton for all interested K-6 personnel working in Career Education units. The primary purpose of the workshop was that of organizing curriculum material, including slides, with commentaries or teachers' summations of previously developed occupational units. The concept of Teacher Resource

Units (TRUs) emerged during this workshop in response to a need expressed by some teachers. They had found that on some occasions resource material was needed which was less comprehensive and restrictive than learning activity packets (LAPs). (See Appendix G).

During the summer of 1972 additional staff development was accomplished by sponsoring the attendance of Riverton staff members at training sessions in other institutions:(1) Mrs. Joan Graf attended a two-week vocational education workshop for college credit at the University of Northern Colorado, and (2) Glenn Burgess, Project Director, attended the University of Wyoming for four weeks, completing administration and research courses for college credit.

Continued field trips for staff members were planned through November, 1972. By this date, however, the emphasis had shifted from observing industrial sites to studying the curriculum and philosophy of Career Education programs.

In November 1972, in-service training was conducted for two new teachers in writing behavioral objectives and LAPs. It is worth noting that at this point there were only two teachers, both new arrivals to the district, who needed this type of training.

From November 1972 through April 1973, certain teachers were receiving up to six hours per week paid released time in order to complete curriculum development. The project provided substitutes for those teachers on released time.

During the winter of 1972-73, staff development through field trips continued. Various staff members visited programs in Colorado for the purposes of observing programs, exploring the relationship between a home

school and the center school, observing the articulation of curriculum, busing, and other administrative problems.

In February 1973, staff members from Riverton toured schools in five cities in South Dakota to observe programs and implementation of methods and materials. Personnel visiting the schools included two school board members, four teachers, the superintendent and the assistant superintendent of the district, the project director, and two counselors.

During May 1973, numerous field trips for staff members had been conducted or were being planned. At that time these were the major means of staff development.

The allied health teacher observed allied health programs in Sioux Falls, South Dakota, and Rawlins, Wyoming, noting particularly their curriculum, facilities and administration. This knowledge was utilized in setting up the Riverton program in allied health.

During April 1973, a group from District #25 visited Butte, Montana, and Helena, Montana, to observe Career Education programs in these districts. Personnel making the trip were two school board members, a teacher, the district superintendent, the assistant superintendent and the project director. The purpose of this trip was to observe various administrative approaches, course offerings, and facilities.

Staff development by means of workshops continued. A general workshop on Career Education was conducted during June, 1973, stressing instructional methods and curriculum development. The workshop was designed to meet the needs of teachers who had participated in fewer than three previous summer workshops. Priority in enrollment was given to those who had the least prior experience. The workshop carried two semester hours of graduate credit from the State Department of Education. The workshop

activities included extensive use of role playing in phone conversations, interviews for jobs, and other work-related situations. The curriculum development stressed the integration of English and math into an occupational curriculum. Also, there was a great effort to bring in practitioners--filling station attendants, builders, etc.---to assist in making the learning packets more relevant.

By August 1973, it had become apparent that the local district had produced a cadre of trained consultants who were capable of conducting any training activities that would be necessary in the future. This was evidenced by the fact that the July 1973, workshop employed local consultants entirely, with the exception of one out-of-state specialist contracted for one day. This was highly significant because it meant that the skills necessary to continue the program were contained within the district. It was evident that when federal funding eventually ceased, this program would not falter for lack of skilled personnel. These consultants and their grade levels and areas of expertise are listed below:

NAME	GRADE	AREA OF EXPERTISE
1. Joan Graf	K-3	Writing TRUs and slide tape presentations
2. Steve Campbell	4-6	Writing TRUs and slide tapes
3. Signe Aspinwall	7-9	Writing LAPs, TRUs,and ETOs
4. Merrill Holley	7-9	Writing LAPs and TRUs
5. Keith Currey	7-9	Writing LAPs and TRUs
6. Elizabeth Kimball-Brown	10-12	Writing TRUs
7. Mary Schenefeld	10-12	Writing TRUs
8. David Flory	10-12	Writing TRUs
9. Rex Hayhurst	10-12	Writing LAPs, TRUs and ETOs

The group of teachers at the secondary level also have had experience in planning cross-articulation of their major subject area to Career Education programs---for example, the cross-articulation of English with auto mechanics.

During the summer of 1973 a major effort in staff development was a workshop conducted June 11-27 for thirty local teachers. These teachers represented grade levels K-12, and all were regular employees of the Riverton district. They received two hours in-service credit for the workshop. Their major effort was the development of curriculum for Career Education or the development of Teacher Resource Units (TRUs) relating Career Education to the established curriculum. All consultants for the workshop were members of the local district with the exception of Steven Dunning of the University of Michigan. Dr. Dunning's specialty was English and the cross-articulation of English with the vocational areas. He attended the workshop for one day. During this workshop one Riverton staff member conducted an extensive effort to integrate TABA guidelines with Career Education material. A fair amount of success was attained in this effort, but there was insufficient time to complete the project.

Curriculum Materials

One of the most important curriculum materials developed were the W.O.R.K. kits. Their development began with a meeting of program directors of Wyoming occupational programmers and occupational education teachers on October 28-30, 1970, to establish preliminary guidelines. During the week of November 2, 1970, the State Department of Education staff began construction of Wyoming Occupational Resource Kits (W.O.R.K.) These W.O.R.K. kits contained information about four-hundred and twenty-five occupations

in Wyoming. This material was made readily accessible to all teachers and students by placing decks, in the form of microfiche, and a reader-printer in all schools. By January 1, 1971, the decks were complete and ready for school use, and by November they were in full usage in high schools and junior high schools in the state.

Teachers began planning for the utilization of the W.O.R.K. kits at the junior high level. Job information on various occupations was made available to all students at the appropriate level. Class discussions in nearly all subject areas centered around work performance, working conditions, earnings, and the job entry requirements of the occupations as related to the particular subject matter.

The format for the career exploration phase was developed during the winter of 1970-71. It provided the students of grades nine and ten an opportunity to explore many careers. Plans were made for classes to be established in agricultural education, business and office education, distributive education, and trade and industrial courses.

By June of 1971, some teachers in the district had begun writing curriculum materials for their own classes. This followed three months of intensive in-service education programs which stressed the skills needed for the initial development of Career Education curricular materials.

During this period the classroom teachers in the four elementary schools were also developing materials related to a variety of occupations and integrating them into the regular school curriculum where applicable. The industrial arts program was expanded to include a large sixty-passenger bus converted into a mobile industrial arts classroom, with an elementary industrial arts teacher in charge of this bus on call to all elementary

schools. Industrial arts projects related to some phase of the regular school curriculum were designed to give students hands-on experience with various tools and work situations. These projects were planned and supervised by the industrial arts teacher. By the end of the 1972 school year, the industrial arts teacher had worked with approximately 25% of the elementary teachers in the district.

At the junior high level prior to November 1971, orientation classes were designed to provide a variety of experiences enabling students to explore different types of occupations. Learning Activity Packets (LAPs) were being used to provide for individual instruction and continuous progress, and guest speakers from the community served as resource persons from various occupations. Tape recordings of the presentations provided students with a permanent tape library of career-related material.

At the secondary level, the auto mechanics offerings were expanded. Two full-time auto mechanics instructors were added to the staff. Learning Activity Packets and W.O.R.K. kits were used at all levels to provide individualized instruction. LAPs particularly were utilized to teach the theory aspect of auto mechanics. In addition students received hands-on or practical experience in the garage on transmissions, tune-ups, brake systems, etc.

The drafting and construction courses were expanded to include four sections of drafting and one two-hour block of construction so that the programs complemented each other. Students were involved in minor building projects such as cement work, building sidewalks, and small building projects for the school.

The office occupations instructor became involved in teaching shorthand in general business classes. LAPs were used in these classes to

provide for individualized instruction and continuous progress.

Two classes in cooperative education were offered at this time (November 1971). Job stations were located throughout the community to provide work experience for the students.

By February 1972, the graphics department was operational and offering ten courses. In addition, curriculum coordinators at the elementary and junior high levels were developing occupational kits to be used by teachers. These were printed by the graphics department.

During this semester virtually 100 percent of all cooperative students were enrolled in the related class. This represented an increase of about twenty percent over the previous year.

Expansions of the occupational curriculum were made in these areas:

(1) A world of construction project including basic electricity was begun for ninth graders.

(2) A photography course was being conducted for eighth and ninth grade students.

(3) An exploratory course in power mechanics including arc welding and acetelyne welding was started for ninth graders.

(4) The home economics teachers at the junior and senior high levels were cooperating on a consumer foods unit.

(5) The social studies classes at the seventh and eighth grade levels had begun to implement world of work projects to explore occupations.

Increasing numbers of teachers at all levels were beginning to work in occupational areas. By mid-winter, 1971-72, more than fifty percent of the district's teachers were conducting career-oriented classroom work at the elementary level. Approximately two-hundred LAPs had been mailed

to six other school districts. Other districts had expressed an interest in exchanging LAPs and other resource materials with Riverton.

By May 1972, the project could claim the following accomplishments in the development of career-oriented curriculum.

(1) A document entitled "program determination" written by the project director and the occupational counselor described the philosophy and objectives of courses to be included in this project. The purposes of this document were to facilitate planning, to describe practical methods of determining the need for programs, and to describe the necessary steps in developing the new program. (See Appendix H).

(2) The elementary coordinator developed a statement of philosophy for developing career materials at the K-6 level. This document and the one mentioned above were intended to provide guidelines in program development and insure adherence to project goals without inhibiting teachers' initiative. Copies of these two philosophies were made available to all teachers in the district. Documents on career clusters and career guidelines for use in planning classwork at the elementary level were also developed and were distributed by teachers. (See Appendix I).

(3) The orientation teacher in the ninth grade developed a career decision process document to be used by students. This document outlined the decision making process faced by young people in choosing a career. It was designed to be used in all orientation classes during the remainder of the project and

was field tested during the 1971-72 school year. Among the activities included in the document was that of studying specific incidents and then role-playing these incidents. This role-playing was video taped, and some of the tapes were then edited for use in other classes. (See Appendix J).

(4) By this time a demand for wider use of certain Career Education units had become evident. Certain units were used repeatedly both by the teacher who developed it and by others. Therefore, a video tape unit was acquired in order to record units for which there had been many requests and a library of these tapes was begun. This library included a tape of a team-taught series at Central Wyoming College in which representatives of various occupations lectured to the students. Taped copies of the lecture series were available for use in the high school.

(5) At this time it became necessary for the district to acquire extensive audio visual materials and related soft-ware. Among these were eleven Doubleday Continuous Loop Super-8 films on career clusters, as well as other similar films. Video tape equipment was used heavily by faculty at all grade levels. Due to the heavy usage the project purchased two new monitors and two new recorders to be used in showing locally produced Career Education units, lectures filmed at Central Wyoming College, and tapes acquired from other districts or commercial publishing houses. Numerous smaller audio visual units were also purchased. A Large guidance kit was acquired to be used

by junior high students.

(6) Utilizing many of the materials described above, and certain additional ones as well, the junior high librarian furnished a career center where the students could browse among various occupational or career related materials. Materials were to be added to this center as the need arose or through requests from teachers or students. The most outstanding purchase was the Doubleday Career Encyclopedia, Volumes I and II.

(7) A major accomplishment of the project staff and classroom teachers was the development of charts relating academic subject matter to occupations. By May of 1972 three of these charts had been completed on English, science, and social studies, and the group was planning the development of ten more charts on various subjects. These charts were eventually developed and disseminated widely throughout the State of Wyoming and were posted in many classrooms. Further, teachers in the commercial department were given a certain amount of released time to be used to develop exploratory programs and flow charts of skills and jobs.

During the summer of 1972 there were intensive curriculum development activities, including the following:

(1) Flow charts and diagrams showing the relation between various academic areas and occupational clusters were developed for drafting, welding, office occupations and agri-business. This development of flow charts was a continuation of a previously mentioned effort to develop comprehensive charts for all

occupational and academic disciplines.

(2) Several faculty members continued developing video tapes and/or slide presentations on various career units. These tapes were catalogued and became available to interested teachers. This project was coordinated by an elementary teacher and a media specialist employed by the Community College.

(3) Junior high exploratory courses were added in journalism, photography and industrial plastics. The materials for these courses were developed entirely by the faculty.

(4) A welding class was begun at the senior high level for students who were also enrolled in auto mechanics and/or agriculture. The welding classes were scheduled to overlap and coordinate with these classes.

(5) The career center which was designed to house the laboratory and related classes of Riverton's career program was under construction at this time. This was financed by the district at a cost of $1,500,000.

During the winter of 1972-73, the project continued the extensive development of audio-visual soft-ware and other curricular material. By November of 1972, thirty-seven slide-tape presentations had been completed which were both documentary and tutorial in nature. In addition, seventy-two teacher resource units were completed. These units were coded, shelved, indexed according to grade and subject, and for the convenience of the teachers were made available in every elementary school. By this time forty-eight careers were fairly well documented at the elementary level. Often the original material had been transcribed using technical

language, so that rewriting was necessary.

At this time occupational teachers at the senior level began extensive planning with lay advisory boards, particularly cosmotology, nursing and auto mechanics. In order to facilitate this curriculum development certain teachers were given released time, up to three hours weekly, for the purpose of writing curricula.

Teachers were permitted to use varied procedures in developing this curriculum material. Specific instructional procedures were left up to the discretion of the teachers. However, skill in writing behavioral or performance objectives was found to be essential, and all teachers were required to demonstrate this skill or to become proficient in it.

In conjunction with developing curriculum, the project staff now began a major thrust aimed at determining more effective ways to assist teachers in the integration of career education materials with their normal classroom activities. The goal was to phase in this material without disrupting other activities. The coordinators relied on teacher initiative wherever possible. At the junior high level various teachers of traditional academic subjects began attempting to integrate these subjects with vocational areas. Four teachers of English, mathematics, science, and social studies began planning ways in which they could effectively integrate the principles of these subjects with requirements of specific vocational skills. These four teachers began to implement LAPs in their classroom work and to acquaint students with career information related to academic subjects. They also attempted to show their students the utility of these subjects in daily life. These teachers reported considerable success in these classroom activities.

Another noteworthy project was begun in the winter of 1972-73. The building trades class began the construction of an entire house as a year-long project. A lot was purchased by the school district and materials for the project were supplied by the district at a cost of $15,000. Upon completion the house was sold and the district reimbursed for its expenditure, and the building trades program kept the profits. Foundations for the house were dug beginning in August, 1972. The house was completed on schedule and sold for $24,500.

The major emphasis during the winter of 1972-73 was on curriculum development, which continued along lines established previously. Some major accomplishments were:

(1) Several courses were added to next year's course of study, and curriculum plans were completed for all of these courses. These included D.E., D.O., office occupations, graphics, communications, building trades, auto mechanics, agriculture occupations, and small engine repair.

(2) A course in small engine repair was added to the curriculum at the high school level. This course was taught cooperatively through the PASCAL (Project to Attract, Satisfy, and Certify All Learners) project whose students comprised about half of the enrollment.

(3) The project staff continued plans for future additions to the curriculum. At this time a great deal of planning was carried out with the cooperation of appropriate advisory boards. The project staff met twice with the cosmotology board and developed curriculum in accordance with the State Cosmotology Board regulations.

The staff also met with the Allied Health Committee and explored possibilities for adding courses in this area. The Welding Advisory Committee was also involved in curriculum planning.

(4) Certain faculty and staff members continued to receive released time or compensation for the development of new courses and for the validation of objectives. This was done by an extensive comparison of course objectives with DOT description of jobs; these descriptions were verified by checking with local practitioners of each individual occupation. The reason for the check was to insure that the occupations as taught in Riverton would be valid for this particular community. It was well known that occupational requirements vary greatly from one locality to another.

(5) One social studies teacher began effectively combining Career Education with a one semester elective course in government. The teacher re-structured his class into a mock house of representatives and senate to enable them to study legislation more realistically. He also utilized field trips to the district court where the students learned about the functioning of the government at that level, and also about related occupations.

(6) A great deal of curriculum material was developed by the staff, particularly at the elementary level.

(7) The supplies of audio-visual material increased, as noted following:

(a) The career information films used by elementary teachers contained material related to ninety-eight different occupations, by the end of February 1973.

(b) At this time there were forty-three slide-tapes with musical backgrounds, sometimes with supplementary curriculum material on file, and they were still being developed and acquired.

(c) At the elementary level documentary scrapbooks were being compiled and widely used by teachers as references. These consisted of pupil contributions, color photographs, teacher developed materials, and other materials collected by teachers at the K-6 level.

(d) Cassette tapes of on-the-job interviews with various workers or descriptions of various positions were filed for use by elementary teachers.

(e) Talking books featuring careers were developed for this level.

(f) More than sixteen of the books with musical backgrounds and sound effects were in use by this time. It should be noted that at least half of these dealt with attitudes, awareness of self, and social growth in addition to career information.

(8) Many other approaches to the development of curricular materials were utilized; some of these included (a) developing a booklet on Career Education for the junior high level, (b) developing a similar handbook for the senior high level, (c) purchasing Encyclopedia Brittanica films, and (d) incorporating the DISTAR 2-language papers (which mention thirty-two occupations at the first grade level) into a discussion of careers.

(9) By May of 1973 two programs were being offered in agriculture. The first program offered work in animal production, agriculture II and FFA activities. The second program offered work in agri-business, intern cooperatives, farm mechanics and horticulture. Other course offerings included a half-day allied health program. Teachers at the elementary level continued to capitalize on the DISTAR reading materials. The career awareness coordinator and a committee of teachers attempted to combine TABA concepts and methods with Career Education content.

It should be emphasized that throughout the discussion immediately preceding, all references to curriculum development dealt with material supplemental to the regular curriculum; that is, material integrating Career Education into the existing courses of study.

The major emphasis on curriculum development continued through May of 1973. The validation of objectives of occupational courses has continued. The appropriate advisory committees have worked closely with the teachers who developed curriculum in validating these objectives.

During the summer of 1973 the emphasis began to shift from curriculum development toward the heightening of community and local school support for project activities. Specifically, citizen advisory committees were organized in the areas of engine repair, allied health, food services, and business and office occupations. These committees functioned in the reviewing of curriculum material and assisting in development. The district was also nearing completion of the building of a new facility and plans were being made to move the physical part of the program into the new facility.

Course Offerings

By June 1971, additional courses in food services, building and construction, graphic arts, office occupations and agriculture-related occupations had been planned at the secondary level, and curriculum materials had been developed or acquired from other districts. The Learning Activity Packets (LAPs) were the basic design of these curriculum materials. Central Wyoming Community College had implemented an audio-visual tutorial system to complement and support the college's occupation program. The college also relied heavily on Learning Activity Packets and behavioral objectives, especially for the electronics and electricity programs.

By November 1971, the high school had implemented courses in auto mechanics, drafting and construction, office occupations and cooperative education. All classes utilized Learning Activity Packets in order to individualize instruction. Students then received hands-on or practical experience. Many courses, such as drafting and construction, were designed to complement each other. The cooperative education program provided job stations throughout the community to provide work experience for the students.

At this time, the PASCAL program and the Career Education program began working cooperatively to provide classroom instruction in skill courses for interested PASCAL students.

By May 1972, the auto mechanics department had made plans for extended day classes in cooperation with Central Wyoming Community College. These classes were conducted from 7:00 p.m. until 10:00 p.m. two days weekly, and were available to high school students. The staff then began investigating the possibility of developing similar programs in graphics

for the next school year.

By May 1973, the registration for occupational courses at the vocational technical center were as follows at the senior high level:

Agriculture	
Animal production	38
Crop production	8
Allied Health	8
Auto Body	35
Auto Mechanics	120
Building Trades	24
DE	26
DO	11
Drafting	35
Food Services (a post secondary course)	9
Graphic Communications	28
Office Occupations	65
Small Engine Repair	24

Enrollment at the junior high level was open to freshmen only. The courses offered at this level were nine-week exploratory courses, and students were allowed to register for any two during a semester. The courses and registration were as follows:

Welding	36
Drafting	12
Electricity	14
Horticulture	13
Graphics	7
Small Engine Repair	26

Student Outcomes

In connection with the world of construction project, junior high students began building model houses scaled approximately 3/4 full size during which they obtained experience in siding, framing, wiring, plumbing and dry walls, putting on exterior finishing and roofing. This all was done on a scaled down model and was available as an activity for eighth and ninth grade students.

By November 1971, a revised form for recording students' achievements

in continuous progress classes had been devised (attached), and was then being used by various teachers in occupational classes.

By the end of February 1972, a "challenge system" of grading had been instituted. Under this system, a student could request a pre-test and practical examination in certain courses in which he had proficiency. If he received an acceptable grade on both the written and practical examinations, he could obtain course credit without attending the class. This procedure had North Central Association clearance. (See Career Education Booklet, Appendix B).

A Career Days program, planned for late spring, became an annual event. Plans provided for the involvement of business and professional leaders from the community.

Various field trips at all grade levels were planned with Career Education. For example, elementary classes visited a planetarium, a weather station, and a field station to observe biological and geological phenomena, for the purpose of becoming familiar with environmental and recreational occupations. Personnel from the project office accompanied teachers and their classes on numerous field trips. In many cases the project personnel arranged the field trips at the request of the teachers in order to relieve teachers of administrative burdens.

During the 1972-73 school year, enrollment in occupational courses increased at the junior high level. This cut slightly into the senior high enrollment, since students began getting an earlier exposure to occupations of their choice.

During the summer of 1973, the agriculture class planted forty acres of barley valued at $7,500. During the summer the students worked on irrigation, spraying, fertilizing, and other related tasks. Shortly before

harvest, the uninsured crop was destroyed by hail. The class owed a local bank $750, which they repaid through fund-raising activities.

The house constructed by the building trades class was sold in the spring of 1973 for a total of $25,240 plus the realtor's fee. The profit from its sale came within $2,000 of making the entire building trades program self-supporting, including all materials and the instructor's salary.

Chronological Events - Highlights

Mr. Glenn Burgess of the Riverton High School was named Project Director on January 5, 1971. His major responsibility was to coordinate all activities and to develop a model in School District No. 25 and Central Wyoming Community College. During the next twelve months the project staff was expanded to include a secretary, a vocational counselor, and an elementary career education coordinator. The primary duties of the elementary coordinator were to develop career-related units and to coordinate other teachers' efforts in using and developing resource material.

The Riverton Occupational K-14 Project was filmed in part on April 26-28, 1972. The filming was done by Trans-World Films, Inc. of Denver, Colorado, under Grant No. OEO-0-71-4742. The 30-minute film was made available for nationwide distribution. It presented the highlights of current Career Education programs in the Rocky Mountain eight-state region. The purpose of the film was to demonstrate the concept of Career Education.

In May 1972, Mr. Glenn Burgess, the Project Director, began a series of meetings with the advisory boards representing various occupations. These groups gave practical advice on questions such as the arrangement of equipment in training facilities and topics to be included in the curriculum.

A demand for extended use of certain career education units became evident. Therefore, a video-tape unit was acquired in order to tape certain teacher-made units for which there were numerous requests. Eventually, units or presentations suitable for grade levels from elementary through college were taped.

The project then began to acquire commercial materials such as Doubleday continuous loop super-8 films on career clusters, a Fairchild projector and the Largo Guidance Kit.

The Career Education Project began actively cooperating with the PASCAL project in order to enroll potential dropouts in occupational courses.

By the summer of 1972, the project's space requirements had increased. Storage space for audio-visual equipment and curriculum materials was needed as well as work space for teachers. The district supplied three rooms located adjacent to the main office for this purpose.

The Riverton Occupational Project was host to a three-day regional workshop in July 1972. Project Directors, State Department of Education personnel, and other involved staff from all of the states in this region were invited, as well as Dr. Pauline Garrett and other United States Office of Education personnel. The major purpose of the workshop was to exchange ideas and to discuss problems and possible solutions. Participants considered the workshop to be very useful.

The district began construction of a career center, which was eventually to house the laboratory aspects and related classes of Riverton's career program, at an estimated cost of $1,490,000. The following programs were selected for housing in the building: Food Services, Auto Mechanics, Body and Fender, Building Trades, Graphics, Welding, Agri-Business, Cosmetology,

Drafting, Office Occupations, and Diversified Occupations.

The methods and philosophy of this project were being widely disseminated and inculcated by means of workshops in other districts. The Riverton staff began devoting an increasing amount of time to conducting workshops, particularly during the summer months. The topics generally included: (1) how to implement a career education program with a minimum of disruption, curricular change, or loss of security on the part of the teachers, (2) how to integrate career education concepts into the regular curriculum, and (3) the use and development of LAPs in Career Education.

Due to many requests and the need to orient visitors, a Career Education booklet was compiled as a handout for visitors. This comprehensive booklet contained most materials which had previously been published, logically arranged to explain the development and intent of the project.

Mr. Burgess, Mrs. Wood, (a kindergarten teacher), and K-6 Coordinator Mrs. Graf, served as consultants for Career Education to the Sutherland Learning Associates in Los Angeles, California, on September 22, 1972. They helped to develop early childhood career education concepts that would be useful in filming a 3-minute TV cartoon series. There was one each for the 15 occupational clusters, plus one overview film which was used for the Captain Kangaroo Show. A resume is attached.

During the 1972-73 school year, the K-6 Career Coordinator conducted extensive curriculum implementation activities. Numerous curriculum and AV materials were stored and indexed in the office, providing efficient access for teachers.

Extensive curriculum development was conducted in order to make maximum use of the new Vocational Technical Center which was then under construction. Various advisory committees met with members of the Riverton

faculty to discuss curriculum development. Rapport was excellent and progress was made in planning curriculum jointly with various advisory boards, particularly in the areas of cosmetology, nursing and auto mechanics.

In order to facilitate this curriculum development, teachers in the involved areas were given released time, up to ten hours weekly, for the purpose of writing curriculum. Specific instructional procedures to be used were left to the discretion of the teachers and were quite varied. However, skill in writing behavioral and performance objectives was found to be essential and all these teachers were required to demonstrate this skill or to become proficient in it.

There was a major change in one of the staff assignments. This resulted from a shift in the proportion of time the occupational counselor was required, through necessity, to devote to administrative duties. These duties were similar to those which would normally be performed by an assistant project director.

All project staff members reported that voluntary participation in Career Education had increased. At the elementary level there was nearly ninety percent teacher involvement by the end of the year. It should be noted that this was voluntary involvement by teachers who were seeking out career materials to use rather than just passively accepting them when urged to do so.

In May 1973, the position of Disseminator for Career Education was approved for the next school year. This position was to be half-time for the district's mathematics project. The primary duties of the disseminator were to be the distribution and maintenance of curricular materials used by the teachers. The disseminator's task would be to locate and distribute

occupational education materials to the teaching staff upon request.

The house which was built as the project of the building trades classes was completed in the spring of 1973 and independently appraised at $27,150. It was then sold, after which the district purchased another lot, and the building trades teacher began plans for a similar project the following year.

The Wyoming Educator, a monthly publication of the Wyoming State Department of Education, devoted its entire May 1973, issue to the Riverton Project. (See Appendix K).

During the summer of 1973, Citizens Advisory Committees were organized in the areas of engine repair, allied health, food services, and business and office occupations. These advisory committees, made up entirely of local citizens, assisted in the review of curriculum material locally developed. This review was regarded as the necessary first step in cross-validating the job titles in each cluster with the specific tasks that were performed by these job titles as listed in the Directory of Occupational Titles. At last count the lay committees in the community had a membership of over 100 citizens.

The district was unable to hire an agri-business instructor for the 1973-74 year because there were no applications. It was well known that this extremely new field suffers from a scarcity of qualified people. The students who had pre-registered for agri-business were absorbed into the DE program.

There was a major change in staffing with the resignation of the former director and the hiring of a new director. Mr. Glenn Burgess resigned effective July 20, 1973, and the new director, Mr. Don Nagel, assumed his duties on August 1, 1973. Mr. Nagel was formerly the Dean of Occupational

and Continuing Education at Western Wyoming College in Rock Springs, Wyoming.

E. Evaluation of the Project

Because of its length, the evaluation section of this report has been considerably sub-divided. The major divisions included: (1) Schedule of Evaluation Events, (2) Third-Party Evaluation-- Year I, (3) Evaluation Design, (4) On-Site Evaluation of Process Objectives, (5) Third-Party Evaluation--Year II, and (6) Third Party-Evaluation--Year III.

Schedule of Evaluation Events

The initial evaluation of the project was completed August 12, 1971, by Roy Y. Yasui, Ph. D. of Stanislaus State University, Turlock, California. At that time, the project had been under way only six months, and no formal evaluation had been devised. Therefore, the State Department of Education staff considered a subjective third-party assessment to be the most appropriate course of action and contracted Dr. Yasui to perform it.

During the summer of 1971, the Wyoming State Department of Education staff were in the process of developing an evaluation design. The completed design was submitted to the United States Department of Education in August 1971. The design is discussed fully in a later section.

A process evaluation was completed in March 1972, by a team of experts from outside of the district. This team spent 3 - 1/2 days in Riverton. Their conclusions and recommendations are summarized in a following section.

Testing of a sample of students was conducted in accordance with the

evaluation design of four separate occasions: February 1972, October 1972, May 1973, and November 1973. In addition, on-site evaluations were conducted approximately every three months or oftener by Dr. Mary Sandifer. In November 1971, she was contracted by the district to perform all data collection and analysis activities in accordance with the evaluation design. In the spring of 1972, Dr. Alan Leslie Pollack of the South Carolina Department of Education was contracted as the third-party evaluator. In the winter of 1972-73, Dr. Sandifer was contracted to perform a third-party evaluation in addition to the data collection.

The data for the Year II evaluation were collected during two separate visits to Riverton by Dr. Pollack. These were on March 6-8, as a member of the process evaluation team, and on May 3-5, as a third-party evaluator. Data were collected by means of individual and group interviews with administrators, teaching staff, special activities personnel, community personnel, project staff and students. Additional information was collected by reviewing curriculum materials, instructional materials, news media releases, training and dissemination films and filmstrips, and by a review of the project application interim reports and previous evaluation reports. The objective data relating to the project evaluation were supplied by Dr. Sandifer, evaluation consultant for the district, and these data were collected and organized under her direction in compliance with the procedures as outlined in "Evaluation Design for Career Education," August 26, 1971.

The Year III evaluation was performed in like manner by Dr. Sandifer. In addition to the sources of objective data cited above, she spent four days on-site interviewing teachers, students, counselors, and administrators.

The results of these interviews verified the results of testing.

Third-Party Evaluation -- Year I

The initial evaluation of the project was completed on August 12, 1971, by Roy Y. Yasui, Ph. D., of Stanislaus State College in Turlock, California. Dr. Yasui collected data for the evaluation by means of personal and group interviews in Riverton from August 1, through August 3, 1973.

His report rated the overall progress of the project as excellent and proposed ten recommendations. The recommendations were as follows:

(1) An evaluation program must be developed to appraise student achievement related to units on Career Education and to measure change in student attitude towards different occupations. It is recommended that measuring instruments specific to the objectives of this project be constructed. Additionally, standardized achievement tests should be administered to determine the impact of the integrated Career Education program upon basic subjects. Pre and post-tests are recommended.

(2) The development of an experimental design to investigate the effectiveness of the Learning Activity Packet approach to instruction is recommended. Evaluation should be concerned not only with student achievement but also with student attitudes.

(3) The objectives developed in the initial proposal (and addendum) require modification. Consultants in the summer workshop on LAPs developed a set of performance objectives. It is recommended that more workshops be instituted to modify the initial objectives.

(4) Articulation of the Career Education curriculum at the junior college level is urgently recommended. Individual instructors have cooperated by attending all workshops, but the specific function of the junior college in this project is not clearly understood by junior college administrators. It is recommended that a specific program with a scope and sequence chart be developed by the Department of Education in conjunction with representatives from Central Wyoming Community College.

(5) It is recommended that the Advisory Committee whose membership includes individuals from specific occupations be included in the initial stages of curriculum planning at the senior high school level. In the auto mechanics and construction (carpentry) courses which were recently developed, the Advisory Committee was not consulted in the initial planning stages.

(6) For future consideration, a kindergarten curriculum on Career Education must be developed.

(7) In future workshops, such as the summer LAP workshop where participants received stipends and college credits, minimal requirements and commitments must be established. Teachers should be required to develop a minimum number of LAP lessons which will be implemented in their classrooms.

(8) It is recommended that the school administration from the central office exert more leadership in selecting a pilot program for experimentation with the Career Education curriculum and the LAP approach to instruction. At the elementary school level the progress of the program appears to be due to the enthusiasm

generated by individual teachers and one principal. The Director of Occupational Education is in a precarious position since it is most difficult for him to exert authority over a school principal. Since this project will now be advancing into its second year of operation, the cooperation of school administrators from the central office is urgently required for selecting a pilot school. It is generally agreed upon that the mode of instruction at the elementary school level for the Career Education curriculum will be via continuous progress. A possible approach to continuous progress is through LAPs. Therefore, administrators must provide leadership in developing and evaluating these approaches. Time does not allow evaluation to be left to the discretion of individual teachers.

(9) The Director of Occupational Education should select a Dissemination Team composed of three teachers from elementary, junior and senior high schools, several administrators, a school board member and himself. The function of the Dissemination Team will be to orient visitors to the project, and also to publicize the project, by publishing a brochure in which each member will describe his role in the project. Dissemination is a vital part of the project and it will demand an enormous amount of time from the Director of Occupational Education. The Dissemination Team may partially alleviate this situation.

(10) The influence of this project upon students should not be limited to three years. Therefore, the Department of Education must investigate other avenues of funding to continue this project.

Evaluation Design

During the summer of 1971, the Wyoming State Department of Education staff members were in the process of developing an evaluation design. The planning was coordinated by the Director of Planning and Evaluation working jointly with the Director of Career Education, the Director of the Research Coordinating Unit, the Assistant Superintendent for Instructional Services, and the Assistant Superintendent for Research and Information Systems. The presence of these particular staff members provided the group with adequate expertise in research methodology, and with adequate representation of Career Education content and philosophy. The completed evaluation design was submitted to the United States Office of Education on August 26, 1971. A summary of the design has been presented in the following paragraphs:

Rationale

The basic questions of evaluation were directed toward student behavior -- first, did change occur, and second, could the change be attributed to the program. In general, there were two approaches available for the solution of this kind of problem -- the use of comparison groups, or the use of prediction techniques. The design for the Riverton project relied more heavily on the prediction method than the control group method for several reasons. First, prediction was generally more economical. Second, many of the errors common to control group designs, such as prior non-equivalence of groups and differential treatment, would have been unusually difficult to control in Wyoming. This would be due to the fact that the Career Education materials were widely disseminated throughout

the state, and would continue to be. It would have been very difficult, if not impossible, to locate a district comparable to Riverton which had not been exposed to some of the material developed for the project. If a control group evaluation design had been used, it would, in effect, have forced a comparison of a group subjected to a great deal of project activity with a group that had had a significant, but indeterminate, amount of project activity. Third, given appropriate testing instruments, a great deal of precision was possible with prediction techniques if each student was used as his own control, baseline data were collected, and then after an appropriate time interval, gains were measured. In summary, the errors associated with prediction were judged to be potentially less serious in this situation than the errors associated with control group designs.

It had been suggested that the school population within the Riverton district be divided into various comparison groups (third-party independent evaluation, August 12, 1971). The evaluators and project directors modified this suggestion for several reasons. First, the proposal specified a district-wide project. It would violate the intent of the project to deny certain pupils the benefits of materials being used. If volunteers only were used in a comparison group, this would also distort outcomes due to the bias of self-selection. Second, dividing students into groups would have created an unnatural laboratory-type of situation. This would be appropriate if new methods were being tested or if basic research were being conducted. But this was not the intent of an exemplary project. Rather, tested methods were being implemented to show their efficiency in a natural district-wide situation. Artificially

created comparison groups would have created an unnatural situation, and would have cast doubt upon the assumption that results in Riverton could be generalized to other districts.

Design

The evaluation consisted of two major phases. The first was in progress for the remainder of the project and involved assessing each objective periodically in order to determine the amount of measured gain. Next, at the termination of the project, selected variables apparently having the greatest influence were to be entered in a regression analysis formula. The concepts developed by Dr. Jerome Moss were employed in order to predict particular program outcomes.

Summary of Objectives

The objectives of the Riverton program were derived from priorities set forth in the Venn policy paper (ADL-W70-1, 1969).

All of the objectives proposed for this project were related to one of the above stated policies. (Refer to Addendum to Proposal #0-361-0011; pages 7-14.) (See Appendix C). These objectives were further made operational for classroom teachers' use in curriculum planning (Appendix L), and were still further refined for evaluation purposes as recommended by Dr. Yasui.

The objectives were grouped under the categories of process, qualitative product and quantitative product. Methods of measurement have been listed following the statement describing each objective.

(A) Process Objectives

The overall process objective of the exemplary program is to implement

and demonstrate, in a K-14 district, the feasibility of a comprehensive occupational education program which will provide for:

(1) the intensification of the counseling-placement function in the school system to provide specifically for:

(a) the provision of "realistic information" about the occupational environment to each student at a level of complexity commensurate with his maturity;

(b) the provision for practice in decision-making to each student with emphasis on increasing the student's proficiency in making "rational" decisions;

(c) the provision for "realistic information" to each student regarding his capabilities and probabilities for success (in given occupations);

(d) the itensification of individual counseling for students immediately prior to leaving school; and

(e) the provision for placement services to ensure that each student who leaves school will be placed in an entry occupation or in further schooling, and to ensure an essential continuity between school and community.

(2) the introduction of a program, K-14, designed to provide specifically for:

<u>K-6</u>

(a) attitude development - intended to develop in all children a respect for all work and a motivation for productive citizenship in the world of work;

(b) career awareness - to (1)promote the student's understanding of various occupations, (2) provide occupational information, (3) explore the world of work, and (4) assist the student in finding out about himself.

7-10

(c) career orientation - to provide students with an understanding about broad areas of our economy and to provide occupation-related information;

(d) career exploration - hands-on experience in the occupational cluster prior to independent skill preparation.

11-14

(e) career preparation - skill programs (providing students with salable skills).

Measurement:

The process objectives will be evaluated by a panel of expert observers. These objectives will become more specific as the staff develops activities designed to accomplish each objective.

(B) Product Objectives

Student behaviors which are expected to change as a result of the project are included in product objectives.

(1) Qualitative Objectives

(a) to increase the student's interest in and awareness of occupations in his community;

(b) to increase the student's interest in academic subject matter areas by incorporating occupational information into the curriculum;

(c) to increase the interest of parents, teachers, and students in occupations;

(d) to increase interest in employee abilities and attitudes by students, teachers, and parents;

(e) to increase satisfaction with curricular offerings;

(f) to increase interest in post-secondary training;

(g) to increase interest in occupational course offerings at the high school level; and

(h) to increase interest in obtaining entry-level skills.

*Measurement:

These qualitative objectives will be assessed by questionnaires designed for various age levels. Changes will be evaluated by a repeated measures paradigm. These instruments developed in Apex have been reviewed and appear to be appropriate; therefore, these will be used.

(i) to increase the student's knowledge of the occupational environment and his own abilities.

*Measurement:

This objective will be assessed by a test developed by drawing items from previously developed curricular material. The tests used in Apex will be examined and, if these have content validity to the Riverton curriculum, they will be used. Probably, many items specific to community occupations will have to be revised. This test will be administered on the same schedule as the attitude questionnaire.

(f) to increase the number of "rational" occupational decisions.

Measurement:

The assessment of this objective will be limited to grades 7-12. Staff members will assess the appropriateness of career choices of students, and rate them either "rational" or "irrational".

(2) Quantitative Objectives

(a) to increase the number of occupations that a student can name by ____% each year.

Measurement:

This objective will be assessed at all grade levels by having the student list all the occupations he can. Sampling will be used. The same schedule employed by attitude testing will be used.

(b) to increase the number of "good" work habits that each student knows by ____% each year.

Measurement:

This objective will be assessed at all grade levels by having the student simply list "good" work habits. The "goodness" of the work habits will be judged by staff members. A frequency count will be compared with the baseline value to measure increase in knowledge.

(c) to increase average academic achievement by ___percentiles each year, as measured by standardized tests appropriate to grade levels.

Measurement:

This will be measured, so far as possible, by the regular testing program of the district. Percentile increase will be adjusted for unequal scale units in determining expected gain.

(d) to increase the ADA by _____% each year.

Measurement:

This objective will be assessed at all grade levels by examination of school attendance records.

(e) to reduce the number of grade failures by ___% per year without altering academic standards.

Measurement:

This objective will be assessed at all grade levels by examination of existing school records.

(f) to increase the number of parental conferences requested by ___% per year.

Measurement:

This objective will be assessed at all grade levels by examination of existing school records.

(g) to decrease the dropout rate by ____% per year.

Measurement:

This objective will be assessed at grade levels 9-12 by examination of existing school records.

(h) to increase the number of students in cooperative education programs by ___% per year.

Measurement:

This objective will be assessed at grade levels 9-14 by examination of existing school records. A comparison with baseline records will be performed.

(i) to increase the number of requests for career guidance services by ___% the first year and ___% each of the following years.

Measurement:

This objective will be assessed at grades 9-14 by an examination of counselors' records and interpretation of the focus of requests. This information will be compared with baseline records.

(j) of those students who do not plan to enter a post-secondary school, the number with job-entry skills will increase to 100% in three years.

Measurement:

This objective will be assessed by the subjective judgment of placement personnel. In order to be judged successful, every student not continuing formal education must be judged as being equipped with job-entry skills.

(k) to increase the number of students using W.O.R.K. kits to 80% of the students enrolled within three years.

Measurement:

This objective will be assessed by an examination of library and classroom records of students' use of W.O.R.K. kits.

(l) to place all (100%) graduates and dropouts who seek employment or additional schooling during the next three years.

Measurement:

This objective will be assessed by a follow-up of students requesting aid from the placement center.

(m) to increase 100% within three years the number of students enrolled in educational programs appropriate to their career choice.

Measurement:

This objective will be assessed at grades 7-14 by an examination of counselors' records and comparison with staff's assessment of students' rational occupational choices.

(n) to increase the number of course offerings in occupational areas by two courses per year.

Measurement:

This objective will be assessed at grades 7-14 by listing course offerings as reflected in school records.

Sampling, Data Collection, and Other Evaluation Procedures

(A) Sampling Design

The size of a sample was determined using the techniques described by Leslie Kish in Survey Sampling after an estimate of population variance had been made. It was decided that, once the size was determined, and if administratively feasible, an SRS sample would be selected from the Riverton school. If sampling should not prove feasible, the entire population would be tested.

(B) Data Collection and Analysis

Data collection for evaluation purposes was accomplished by using school district personnel and through contracts with outside consultants. The analysis and interpretation of the data, as well as preparation of the interim and final reports, was contracted to an independent third party.

(C) Instrument Development and Record-Keeping

In November 1971, the district contracted Dr. Mary M. Sandifer to carry out all necessary data collection, instrument development and data analysis, as prescribed by the approved evaluation design.

A major task in conducting this evaluation was the adequate maintenance of records. Many product objectives had to be assessed by collecting information from existing school records. This necessitated , first, a thorough review of record-keeping procedures at the elementary, junior high, senior high, and college levels, and second, the design of forms for staff use in compiling data for the evaluation. The evaluator examined records and forms in all school offices and discussed customary record-keeping procedures with all building principals, counselors, and the community college administrators. All staff involved agreed to cooperate in record-keeping and granted permission for the occupational project staff to utilize their files to collect data. The confidentiality of the information was recognized and arrangements were made to maintain that status.

Items which were assessed either wholly or in part by means of existing records were:

(1) average academic achievement
(2) average daily attendance
(3) percentage of grade failures
(4) number of parental conferences
(5) drop-out rate
(6) students enrolled in cooperative education
(7) requests for career guidance services
(8) number of students having job entry skills
(9) number of students using W.O.R.K. kits
(10) placements of graduates and drop-outs in jobs
(11) enrollment in appropriate educational programs, and
(12) number of course offerings in occupational areas.

It was necessary to develop several instruments to assess certain objectives of the project. A review of standardized tests available from commercial publishing houses showed that there was nothing available at this time that could adequately measure certain objectives of the project. Specifically, instruments that were needed were: (1) a questionnaire dealing with attitudes towards occupations in the world of work; two versions, for the elementary and secondary level, were needed; and (2) a survey of students' knowledge of the occupational environment.

In addition to the above mentioned questionnaires, instruments were needed to rate the rationality of students' occupational decisions, the number of occupations that students could name, the number of good work habits that students could name, and a rating of the students' preparation to enter the job market. The methods described following were utilized in developing these instruments.

(1) The Survey of Occupational Knowledge

The survey of occupational knowledge designed for grade levels 5-14 was designed to assess students' knowledge of the occupational environment in the Riverton locale, as called for in qualitative objective #9 (see Summary of Objectives section). This test was designed to determine the students' knowledge of various occupations, general requirements of the occupations, their qualifications, interests, etc. It did not involve technical information about the field itself. It was obviously necessary to make this test relevant to Riverton and to the area immediately surrounding it. In order to write relevant items the project staff requested that all teachers supply certain information regarding their classroom activities. Each teacher completed a survey regarding occupational clusters taught or discussed in the classroom, information about occupations, educational requirements, salary ranges, special interests, and other comments relevant to occupations as discussed in their classrooms. This survey was completed by all teachers at all grade levels and in all subject areas at the secondary level. The evaluator explained the purpose and usefulness of the survey to each teacher in the district. The information supplied by these teachers was summarized and the survey of occupational knowledge was devised from it. This was an objective pencil-and-paper instrument primarily multiple-choice in format. The instrument was administered to all sample students in grades 6-14, and underwent item analysis and two revisions. The final form has been inserted in the Appendix.

(2) Attitude-Toward-Occupational-Education-Scale

The attitude-toward-occupational-education scale was constructed primarily as a result of the reviews of other scales. The procedure for constructing it was the standard one of first listing the objectives and then constructing or selecting items which were related to these objectives. Numerous other scales, both published and unpublished, were reviewed, and items which seemed to fit the objectives of this particular project were drawn from these scales. In some cases they were rewritten and in other cases they were already sufficiently specific to the situation. Items were arranged more or less randomly and keyed as being either positively or negatively toned. Some negatively toned items were included in order to avoid creating response "sets" in the respondents. Following the first administration of the instrument all responses were subjected to an item analysis. A simplified version of this instrument, designed for students K-5, was also constructed.

(3) Rating Scale for Students' Career Choices

One objective to be assessed by a pencil-and-paper test involved rating the rationality of students' career choices. The primary limitation placed on the instrument to be used in this rating was that of time required for completion. It was to be filled in by faculty members, either counselors or teachers familiar with the students; therefore, it needed to be as short and simple as possible in order not to intrude on the limited time of these staff members. In addition to being brief, the instrument had to be intelligible,

unambiguous, general, and valid. A review of literature and current projects revealed that there were no such instruments available.

After much consideration and discussion with State Department of Education personnel and project personnel, the following rationale was developed for the instrument used to rate these career choices. It became apparent that there were at least three factors determining the rationality of a given career choice. These three, (for want of better terms,) were labeled: (1) ability, (2) personal traits, and (3) resources available. For purposes of this rating the following definitions were used:

(1) Ability was defined as I.Q. and other measures of aptitude and talent relevant to the choice of occupation. In some cases a talent, such as musical or athletic, would be necessarily present at a particular level in order for success to appear likely for a chosen occupation.

(2) Personal traits were defined as relevant personal preferences and tastes, lifestyles, or any other factors which might affect career success, including overwhelming community or family influences or attitudes. Also included were personal work habits, such as, attention to detail, toleration of repetition, patience, creativity, and other personal habits of this nature.

(3) Resources available was defined as effective proximity to training programs, including parents' ability to pay, if necessary. Also, this could include availability of scholarships or work-study programs, if these determined the student's ability to become trained in his chosen career.

It was decided to have each of these factors rated independently on a four-point scale from "totally suitable" to "totally unsuitable," depending upon where the student stood with respect to each trait. The most feasible means of doing this was to devise a three-by-four matrix in which the three traits were column headings, and row headings were the "totally suitable" to "totally unsuitable" ratings.

Then the counselor or other rater simply placed a check in the columns to indicate his judgment of the student's rating on each particular trait. A composite score was calculated by weighting each row and adding the total of the checks. Raters were instructed to consider each trait separately, for it would be possible for a student to be totally suited to a career on one trait, yet totally unsuited on one or two others. Furthermore, the raters were told to rate each student independently of others. The object was to obtain an absolute score for each individual student, not his relative standing within a group. In other words, the normal bell-shaped curve was not expected to apply in this case.

A summary of the results of this survey has been presented in a following section.

(2) Other Student Information

The only other pencil-and-paper instrument administered to students was entitled Student Information Form. On this form, three pieces of information were solicited from the student: (1) his present choice of a career, if he were in grade 7 or above, (2) a list of as many occupations as he could name, as required by one of the objectives (following the first administration, this effort was discontinued for students in grade 7 and above; apparently, boredom was more of a factor with these students than knowledge of occupations), and (3) a list of as many good work habits as he could name, as was also required by one of the objectives.

(E) Other Measures

Another type of information had to be collected directly from the teachers. Various objectives called for (1) the incidence of use of the W.O.R.K. kits by students, (2) an indication of increases in the number of parental conferences requested, and (3) whether or not the students were making more inquiries about career information.

The only feasible way of collecting this information was to go directly to the teachers and counselors who were involved in these information requests. Teachers were asked to keep a running tally of each of these items. Unfortunately, so few teachers were able to comply with the request that the effort to obtain objective measurement of these questions was dropped.

(F) On-Site Evaluation of Process Objectives

Assessment of process objectives was accomplished by a team visit of four experts. The assessment of these objectives called for subjective opinions by a group of qualified outsiders. The members of the team were selected on the basis of recommendations either by State Department of Education personnel or by Riverton project personnel or both. The team spent approximately two-and-a-half days performing the subjective evaluation. A report of their findings has been summarized in a later section.

(G) Sampling

A sample of one-hundred and sixty-five students was selected from the entire district. The method utilized was that of systematic selection -- that is, selection of every nth student following

a random start from among the first n students. During the second year of the evaluation it was necessary to select an additional one-hundred students because of an unexpectedly large number of students lost to the sample, primarily because of their parents having moved out of the district. In the subsequent analyses, these two samples were kept separate.

On-Site Evaluation of Process Objectives

On March 6-8, 1972, a team of experts from outside the district observed the project being conducted in Riverton. The purpose of the team visit was to conduct an evaluation of the process objectives listed in the approved evaluation design. The four team members represented three states, experience at the elementary, junior high, secondary and college levels, and affiliation with the State Department of Education, public school systems, a community college, and the State Occupational Education Advisory Council. The team first assembled for an orientation session. In addition to the team members present there were staff members representing the local district, including teachers, counselors, the project director, the superintendent, the assistant superintendent, and a school board member. Also present were the project evaluator and representatives from the Wyoming State Department of Education. Their orientation included topics such as "An Overview of the Program", "The Elementary Industrial Arts Program," and "The Career Education Programs at the Community College". After the program activities-in-progress had been thoroughly explained to the team members and their questions

answered, they were requested to work out their own schedule for interviewing key staff members and selected students. The findings of the team and a summary of their recommendations have been quoted below:

> The team agreed unanimously that the overall quality of the program was excellent. While there are some recommendations, these should not be taken as criticisms. It is understood that at the time of this team visit, the project has been in effect slightly more than thirteen months, and has approximately one and one-half years remaining. Not meeting certain objectives fully at this time is not a criticism. It seems evident that if the current rate of progress continues, project objectives will undoubtedly be met at the K-6 level and at the community college level. It is still questionable whether the objectives will be met fully at the 7-12 level.

Personnel and Administration

The team observed that most staff members were supportive of the project and fully understood its basic goals. In the high school, the team perceived a somewhat different attitude. While teachers' comments and responses to questions showed no adversity and certainly no open opposition to the program, there was some reluctance to accept it. The team concluded that this was not due to the program itself, but to other problems. Furthermore, some teachers seemed to lack a clear understanding of the nature of the program, which may have been the result of a strong traditional background. Criticisms expressed by teachers at the 7-12 level were directed more at the district administration and the school board than at the project. Some fears and insecurities on the part of teachers were evident.

The team noted that there seemed to be too pronounced a division between the district administration and the project administration in teachers' minds. This problem was primarily a question of appearances and teachers' perceptions, not of actuality. However, the appearance of a better blend between the two administrations would have been desirable.

With respect to project personnel, the team's major impression was that, considered as a whole, the personnel selection for project positions had been outstanding. Most staff members were extremely well-suited to their positions, both professionally and personally. The regular school staff of classroom teachers also was judged to be excellent. The team concurred with a concern expressed by the high school principal that some programs may suffer in the future because certain teachers will become overburdened.

The team had one further recommendation for the project personnel. It was to remember the advice given teachers in regard to students, "to take them where they are." Many teachers still felt insecure with the philosophy, methods, and materials being introduced. It was agreed by team members that project staff must be willing to begin teacher education at whatever level it should prove needed.

Curriculum

Many people, both staff and public, have tended to think of certain published material as the Career Education Program itself. This has been particularly true of the LAPs which were produced. This false impression may have resulted from faulty communication.

Another potential problem has been that some teachers tended to use newly-developed materials as a crutch, much as textbooks are often used. At the other extreme, the team noted several instances of the correct use of LAP's in open-entry, open-exit programs with individualized instruction. The electronics program at the community college and the auto mechanics classes at the high school were especially outstanding and could serve as models for the development of other courses of study.

The excellence of the flow charts which showed the relationships among careers and programs of study was impressive. The curriculum planning demonstrated by these charts showed much effort and research. The planning and execution of the educational orientation course also deserved a special commendation.

The team noted that project services to special education students were somewhat limited. The consequent recommendation was that services to these students should be expanded and that relocation of their facilities should be considered. The team also raised the question of whether or not some students in need of special education were being accurately identified, since their number was proportionately less than the state average.

Future Development

The team saw a potential danger in the proposed placement of the Vocational-Technical Center. It was feared that the geographical separation of the center from the high school and junior high may encourage the academic-vocational dichotomy which has been evident in the past. It would be possible and critically important to avoid

these two aspects of the curriculum. One possibility suggested would be to house all physical science laboratories in the center, allowing all students to get their required credits there. The team emphasized that academic and vocational curricula cannot be separated if a true Career Education Program is to be achieved. If the academic and vocational were to be merged, and if this unity was to become evident to staff, students, and public, then the naming of the center becomes an essential point. If the name itself implied either an academic or a vocational orientation, then much of the center's effectiveness could be lost.

Summary

The overall quality of the occupational project was judged to be outstanding. It should be remembered that any recommendations or concerns noted by the team have been made with the understanding that the project was then less than fourteen months old. These comments were not intended to detract from the overall excellence of the project. The program's not having met certain objectives fully at this time was not viewed as failure, but evaluation and criticism were designed to serve as indicators of where to concentrate future efforts.

Third Party Evaluation — Year II

Following a review of the data available and subjective on-site evaluation, Dr. Pollack had the following comments, conclusions, and recommendations to make regarding the project:

Judged solely against the stated evaluation criteria the Riverton Career Education Program must be judged as successful. All objectives are being met or are in the process of being met with a good-to-excellent chance of success. Certain observations and evidence not appropriate elsewhere in this evaluation report are noted below:

(1) The quality and dedication of the Career Education Project staff is outstanding and certainly one of the major factors responsible for the success of the project.

(2) Printed handouts and guides produced by the district staff are of excellent quality. These handouts are in the areas of evaluation, program determination, curriculum development, program objectives, and the writing of behavioral objectives.

(3) Printed brochures, films, and filmstrips prepared by the project staff and by the Wyoming State Department of Education for the purpose of dissemination and training are excellent in quality and approach.

(4) The coverage received by the public schools in the local press has been outstanding. A typical example is the Wednesday, January 26, 1972, edition of the "Riverton Ranger" in which four articles dealing with the public schools appear in the papers' fourteen pages.

(5) The student orientation and course guides for Riverton High School and Riverton Junior High School are excellent. Particularly attractive is the Junior High Language Arts Guide. Some of the language arts course titles are "Is Your Spelling Smell-ing?", "Put It On The Line" (English structure), and a course in the novel entitled "I Can't Believe I Read the Whole Thing."

(6) A special reporting form for occupational classes was developed to encourage "continuous" progress. This form enabled the student to gain partial credits and also provided a place for the instructor to identify specific skill mastery. Also, worthy of commendation was the establishment of a "challenge procedure" which enabled a student to "test out" of a course and receive full credit for that course.

(7) The "mobile" unit (a refurbished 72 passenger school bus) is effectively being used to bring manual arts instruction to all elementary-age students.

(8) Project positions have been written for all staff members specifically outlining their responsibilities.

(9) The evaluation procedures including instrument construction are comprehensive and commendable.

While the above items are difficult to relate specifically to a particular objective, they are all complementary in nature. Obviously, negative aspects of the program were also observed; however, with one exception these subjective observations do not warrant inclusion in a formal paper of this nature. The one exception is the conflict surfacing in the district due to the lack of role definition with regard to the various levels (school board, administration, professional staff) within the system. Obviously such conflicts will, if continued, affect all aspects of the educational program.

In conclusion, one must be impressed with the overall quality of the Riverton Career Education Project. Certainly the planning and execution has been excellent throughout. Unfortunately, it is in the nature of an evaluation to note discrepancies while kudos are often awkward and out of place. The recommendations that follow should not be taken as criticism but merely as well-meant suggestions for improvement.

Recommendations

(1) The independent evaluation performed last year commented on the lack of an experimental design and comprehensive evaluation plan. It is the opinion of this evaluator that a solid evaluation plan now exists covering both summative and formative evaluation strategies. The criticism regarding an "experimental design" is unwarranted; such a design would sacrifice generalizability for the illusion of control.

Recommendation: Continue evaluation procedures as specified. (Evaluation Design for Career Education, August 26, 1971)

(2) A general weakness in the Career Education Program is that, except for self-contained elementary classes, there is little common career curricula within grade levels. When grades are departmentalized, individual teachers often do not work together across subject areas to effect a broader career education concept. Additionally, career education opportunities currently are not sufficiently structured so that a student consistently builds on past career education experiences as he moves up in grade level.

Recommendation: The project staff should continue to seek new methods for implementing vertical and horizontal integration of the Career Education Program. One such suggestion would be the total elimination of the general education and vocational curricula, and provision of a program for all children centered around the study of career clusters. Such a curriculum could easily meet the needs of all students; for example, engineering careers could easily be studied by the academically-oriented (chemical, electrical, etc.), as well as by the more manually-inclined (mechanics, drafting, etc.) student.

(3) A new vocational-technical center is about to be built and will contain most of the shops which are now spread all over Riverton. The building of a vocational-technical complex will serve further to dichotomize the career education and the traditional programs. This occurrence has been common in many states with a long and substantial heritage and would be most unfortunate.

Recommendation: The new center should include science labs as well as shops so that a continual mix of "academic" and "vocational" students is in attendance at the center. The name of the center should not be "vocational" or "occupational" but should be something like "Science and Technical Center."

(4) While the counseling staff is adequate in quality there certainly remains a need for additional counselors and for counselors specifically trained and experienced in the "world of work." Additionally, counselors should be freed from all but absolutely essential administrivia.

Recommendation: One additional full-time counselor at the elementary, junior high, and high school levels respectively.

(5) Under the provisions of the original contract with the U.S.O.E. the grantee is committed "to carry the program on with support from regular funding sources after the termination of federal assistance under Part D of P.L. 90-96." Certainly the project staff is aware of this provision, as a great caution has been exercised in hiring practices.

Recommendation: The school district should begin preparing for full local funding by integrating project and regular central staff to coincide with the complete integration of the "academic" and "vocational" curricula. While this action would necessarily cause some shuffling of existing personnel and perhaps a dual accounting system, it would lend permanence and stability to the project itself.

(6) Both the process and product evaluations indicated a weakness in the project at the junior high school level.

Recommendation: Special emphasis should be given to implementing career programs for all students at the seventh and eighth grades.

(7) Throughout the project the terms vocational, career, occupational, and technical are used interchangeably both verbally and in writing. This confusion in terminology is disturbing and serves to dichotomize the "career" programs and the "academic" programs.

Recommendation: That standard terminology be used in relating to the project and its related courses.

(8) During the past year-and-a-half the speed at which implementation has taken place has been phenomenal. In many cases the speed of implementation and the zeal of the project staff has tended to antagonize the more traditional staff members.

Recommendation: The administration should assume a positive but non-reactive posture regarding career education. That is rather than reacting to criticism the implicit assumption should be that "career education is now an integral part of the Riverton curricula." With this positive but non-threatening posture established, a somewhat slower, but definite, movement to complete the implementation is appropriate.

Third Party Evaluation --Year III

Evaluation Findings Based on Testing

This section of the report has been designed to present a discussion of findings-by-objective, based solely on the results of testing. Comments based on observations and interviews with staff members and teachers have been recorded in addition. The recommendations and conclusions contain summaries both of the results of testing and of the results of observations and interviews.

Quantitative Objective No. 1 -- Number of Occupations Listed

Increase the number of occupations that a student can name by ____% each year.

This objective was tested by asking the student to name all of the occupations he could. The results were scored by giving one

point for each of the occupations listed after duplications and unacceptable answers had been elimlnated. During the February 1971 testing, it became evident that many students in the upper grades did not perform to their maximum ability on this item because of boredom. The elementary students seemed to stay fairly interested in listing as many occupations as possible. Therefore this item was re-administered in Grades K-6 only, and data have been reported for those particular grades.

TABLE I
COMPARISON OF AVERAGE NUMBERS OF OCCUPATIONS NAMED BY STUDENTS

Grade	1	2	3	4	5	6
Feb. 1972 Average	5.57	7.56	5.82	13.0	14.9	18.8
October 1972 Average	6.4	5.3	9.6	8.8	14.3	13.7
April 1973 Average	6.7	12.3	14.5	14.6	22.5	15.4
Nov. 1973 Average	10.07	11.5	18.7	23.3	27.4	26.8
% Increase Over First Year	80.8%	52.1%	221%	79.2%	83.9%	42.7%

It should be noted that this was not a comparison of the same students, but rather of the same grade levels-- that is, students in the 2nd grade for the first testing were in the 3rd grade for the second and

third testings and in the 4th grade for the final testing. When the averages were compared for the same students, the increases were equally noticeable even considering the effects of maturation. The greatest increase was among those students presently in the 5th grade, who experienced an increase of 150%.

Based on the test data it was apparent that this objective is being met. It appeared that the greatest gain could be expected in the middle elementary grades and that these students reached maximum performance level near the 6th or 7th grade.

Quantitative Objective No. 2— Number of Good Work Habits Named

To increase the number of good work habits that each student knows by _____% each year.

This objective was assessed by asking each student to list as many good work habits as he could. The lists were scored by giving one point for each correct answer after duplication or unintelligible answers had been eliminated.

TABLE II

COMPARISON OF NUMBERS OF GOOD WORK HABITS NAMED BY STUDENTS--
PROGRESS MADE AT GRADE LEVELS OF STUDENTS

Grade	K	1	2	3	4	5	6
Feb. 1972 Average	2.0	1.33	1.8	3.0	5.2	4.9	5.9
Oct. 1972 Average		1.3	.8	2.8	2.8	3.4	4.1
April 1973 Average	1.44	2.1	2.5	3.85	2.6	5.0	4.3
Nov. 1973 Average		2.0	3.8	4.1	4.0	4.7	5.2
% Change over 1st Testing		53.8%	111.1%	37%	30.8%	(-)4.1%	(-)12%

The increases made by the students were less than expected. Many grade levels failed to reach their performance on the initial testing. Whether this was due to irregularities in the scoring or boredom on the part of the students has remained unclear. As with Table I, this table has not been designed to show the gains of the same students, but relative performance at various grade levels.

When the increases of the same students were compared as they progressed from one grade to another, a larger amount of increase was evident. However, students at the middle elementary grades still showed a decline rather than an increase in the number of good work habits listed.

While it did seem safe to assume that students as a group were increasing in their knowledge of good work habits, a qualitative comparison of answers was performed in order to gain a more accurate idea of the

changes of students' attitudes towards good work habits. The frequency of mentioning specific work habits was tabulated and these results have been given in Table III.

Table III gives the frequency which each work habit was listed at various grade levels, and also the percentage of the total numbers of responses. In the table, frequencies of responses are provided first in each cell; percentage of column total is listed beneath each frequency. This table reveals some changes in the students' attitudes since the preceding year. In the opinion of the evaluator some of the more significant of these were that good judgment and initiative were mentioned much more often. There were other qualitative changes which have not been reflected by the chart. For example, item #5 which was coded as "follow directions" was often represented in later testing by terms such as "listen carefully" or "listen to instructions" which showed a slightly more sophisticated attitude than simply to follow directions or to do as one has been told.

TABLE III

FREQUENCIES OF WORK HABITS NAMED

QUALITY NAMED	GWC	RMS	RMS	ELEM	TOTAL
1. Promptness	6 7.9	22 10.5	27 14.6	44 13.6	99 14.2
2. Doing Best Work Accuracy	3 3.9	18 8.6	19 10.3	28 11.5	68 9.9
3. Diligence, Conscientious	5 6.6	19 9.5	24 13.0	20 8.9	68 9.9
4. Neatness, Clean	1 1.6	18 9.0	12 6.5	30 13.4	62 9.1

TABLE III - Continued

QUALITY NAMED	CWC	BAS	BJTAS	FLDW	TOTAL
5. Follow Directions, Obedience	5 6.6	7 3.5	14 7.6	19 8.5	45 6.6
6. Friendly, Considerate	3 3.9	10 5.0	5 2.7	5 2.2	23 3.4
7. Cooperative Helpful	5 6.6	11 6.0	15 8.1	11 4.9	43 6.3
8. Courteous	1 1.6	12 6.0	17 9.2	15 6.7	46 6.7
9. Preparation for work, Knowledge of Field Ability	8 10.5	11 5.5	2 1.1	3 1.3	24 3.5
10. Enjoy Work Cheerfulness		6 3.0	5 2.7		11 1.6
11. Reliable	2 2.6	9 4.5	4 2.2		15 2.2
12. Appropriate Appearance and Conduct	1 1.3	13 6.5	3 1.6	1 .09	18 2.6
13. Efficiency, Organization	5 6.6	4 2.0	8 4.3	7 3.1	24 3.5
14. Safety, Carefulness	1 1.3	1 .5	5 2.7	8 3.6	15 2.2
15. Honesty	4 5.3	4 2.0	4 2.2	1 .04	13 1.9
16. Loyalty and Respect for Employer or Company	3 3.9	7 3.5		1 .09	11 1.6
17. Alert	1 1.6	1 .5	3 1.6		5 .09
18. Good Health and Health Habits		2 .10	3 1.6	3 1.1	8 1.1

TABLE III - Continued

QUALITY NAMED	CWC	RHS	RJHS	FLEW	TOTAL
19. Continue to Learn	3 3.9	1 .5	1 .05	1 .04	6 .09
20. Patience		1 .5	3 1.6	7 3.1	11 1.6
21. Flexible		1 .5			1 .001
22. Interest in Work	1 1.3	5 2.5	1 .05		7 1.0
23. Creativity, Imagination	1 1.3		1 .05	1 .04	3 .4
24. Avoid Gossip		2 1.0	2 1.1		4 .6
25. Pride in Work	3 3.9	2 1.0	2 1.1		7 1.0
26. School Habits	4 5.3	6 3.0	3 1.6	13 5.8	26 3.8
27. Be Fair		1 .5		2 .09	3 .4
28. Ambitious		1 .5		2 .09	3 .4
29. Good Judgment		1 .5	1 .5		2 .3
30. Self-Confidence	2 2.6	1 .5	1 .5		4 .6
31. Initiative	5 6.6	3 1.5			8 1.2

It seemed safe to conclude that this objective is being met at all levels. The highly qualitative nature of the responses introduced grading difficulties which could obscure some of the growth which the students have made. Boredom was always a threat in a question of this type. It seemed probable, also, that many students had already reached a ceiling in the

number of answers they were likely to give. It did appear to the evaluator that they were giving increasingly sophisticated answers.

Quantitative Objective No. 3 - Academic Achievement

To increase average academic achievement by ___% each year as measured by standardized tests appropriate to grade levels.

This objective was tested by compiling results of the district's regular testing program. Table IX summarizes the results of this testing.

TABLE IXa -- ACHIEVEMENT TEST RESULTS (READING)

Grade	Name of Test	Median %ile 2-72	Median %ile 3-73	Median %ile 1-74	Comments
K	WRAT	49%	MAT *	*	
1	Lee Clark	*	MAT 78	**	
2	Otis	41	MAT 38	**	
3	MAT	50	MAT 72	**	
4	MAT	46	MAT 54	MAT 74	
5	MAT	57	MAT 66	MAT 60	
6	MAT	61	MAT 54	MAT 72	
7	Otis	63	Otis 64.5	*	
8	MAT	28	MAT 46	*	
9	ITED	72	ITED 45	ITED 49	
10	ITED	60	ITED 69	ITED 50	
11	ITED	49	ITED 68	ITED 76	
12	ITED	54	ITED 54	ITED 73	
CWC	ACT	56	ACT 55	*	

* Not administered by district

** Test schedule changed by district. No comparison possible

TABLE IXb -- ACHIEVEMENT TESTS RESULTS (READING)

Grade	Name of Test	Average GE** 2-72	Average GE 3-73	Average GE 1-74	Comments
K	WRAT	*	*	*	
1	Lee Clark	1.36	2.8	*	
2	Otis		MAT 2.41	*	
3	MAT	3.28	MAT 3.95	*	
4	MAT	3.99	MAT 4.48	MAT 5.28	
5	MAT	5.31	MAT 5.92	MAT 5.80	
6	MAT	6.90	MAT 6.32	MAT 7.79	
7	Otis		Otis***	*	
8	MAT	7.05	MAT 7.71	*	
9	ITED	529.33	ITED452.00	ITED 397.85 53%	
10	ITED	482.09	ITED537.22	ITED 415.00 53%	
11	ITED	559.45	ITED555.25	ITED 456.50 64.5%	
12	ITED	554.6	ITED579.9	ITED 480.89 58%	
CWC	*	*	*	*	

* Not administered by district
** On the ITED, a growth score is given instead of a GE
*** No available comparison to other tests

Attitude Toward Occupational Education -- Qualitative Objectives 1-7

The attitude test which was developed for this district was administered to students in order to assess qualitative objectives 1-7. These objectives were as follows:

(1) to increase the student's interest in and awareness of occupations in his community,

(2) to increase the student's interest in academic subject matter areas by incorporating occupational information into the curriculum,

(3) to increase the interest of parents, teachers and students in occupations,

(4) to increase interest in employee abilities and attitudes by students, teachers, and parents,

(5) to increase interest in post-secondary training,

(6) to increase interest in occupational course offerings at the high school level, and

(7) to increase interest in obtaining entry level skills.

At the elementary level a simple form of the test was administered to the students. In the case of very young students who were unable to read, the test was read aloud and the questioner recorded the child's answers. The results were analyzed to yield total scores and percentages correct on each item. The total scores were determined by giving one point for each correct answer and subtracting one point for each incorrect answer. "Undecided" or blank answers were not counted. The maximum score was ten. The terms "correct" or "incorrect" here referred to answers judged most or least desirable from the viewpoint of occupational education. The averages for the students by grade level are given in Table IV.

TABLE IV

AVERAGE SCORES ON ATTITUDE TEST (ELEMENTARY) --
PROGRESS OF STUDENTS

Grade	1	2	3	4	5
Feb. 1972 Average	5.1	5.2	4.8	4.5	6.0
Oct. 1972 Average	5.2	5.3	5.1	5.3	5.1
April 1973 Average	5.9	5.2	5.4	6.2	5.8
Nov. 1973 Average	4.93	6.08	6.29	5.08	5.43
% Increase over 1st year	-3.	17.	31.	13.	10.

As with tables I and II, this table shows the relative gains at various grade levels, but not to progress of individual students. When the scores were analyzed to show the progress of individual students, every grade level had shown some increase in the percentages of correct answers, and some of these increases were appreciable.

In order to gain more specific information, the percentages of correct responses to each individual test item were tabulated. These results have been presented in Table V.

TABLE V

ATTITUDE TEST ITEMS (ELEMENTARY)

TEST ITEM	DESIRED RESPONSE	PERCENTAGE OF DESIRED RESPONSES NOV.73	PERCENTAGE OF DESIRED RESPONSES on 1st TESTING
1. Everyone should learn how to earn a earn a living.	Yes	90.6	96
2. All kinds of work are important.	Yes	84.9	80
3. Everyone should go to college.	No	32.1	16
4. It doesn't matter if some workers do a sloppy job.	No	47.2	46
5. Some workers are more important than others.	No	17.0	33
6. We should learn about jobs in school.	Yes	94.3	80
7. Everyone should enjoy his work.	Yes	90.6	76
8. Workers should always do their best.	Yes	100.0	95
9. I want to do my best.	Yes	94.3	100
10. I want to learn as much as I can.	Yes	92.5	96

When these responses were compared to students' previous responses, the following results were found. Questions 1, 5, and 9 showed fewer desired responses (6%, 16%, and 6% respectively). While no obvious explanation offered itself, it did seem possible that questions 1 and 5, brought out an increasingly realistic attitude, even if also somewhat cynical. Regardless of the explanation for these responses, it was obvious that the overall averages were up, and that most questions showed

positive change. In general, one could conclude that this objective was being met at the elementary level.

At the secondary level, a twenty-two item Likert scale was administered to all students in the sample. The results were analyzed to show averages by grade and the percentages of correct answers for each item. Total scores were computed as follows: strongly agree, 2 points; agree, 1 point; undecided, 0 points; disagree -1 point; and strongly disagree, -2 points. The order of scoring was reversed for items that were negatively toned—that is, items to which a "disagree" response was desired. Table VI shows the average scores obtained by students at the various testings. Note that the maximum score for a student who strongly agreed with every item would have been 44.

TABLE VI

ATTITUDE TEST SCORES -- COMPARISON BY GRADE LEVELS

Grade	6	7	8	9	10	11	12	CWC
Feb. 1972 Average	18.3	20.9	15.6	23.9	23.6	22.1	23.7	25.8
Oct. 1972 Average	14.8	21.1	19.9	17.5	22	20.6	22.7	22.9
April 1973 Average	18.9	19.1	22.9	17.3	24.4	21.1	21.0	24.6
Nov. 1973 Average	19.78	18.67	19.41	22.71	20.20	23.15	22.78	23.4
% Increase Over 1st Year	8.1	(-)11	24.4	(-)5	(-)14	48	(-)4	9

As with the previous tables, these figures do not reflect the progress of the same students, but rather students who were at the same grade level for the various testings. When the changes of the various students were compared for the first, second, third, and fourth testings, the amounts of increase were substantially greater, ranging up to a maximum of 28 per cent.

This test did not reflect positive change in the student's attitudes to the extent anticipated. Changes in the scores of Likert scales such as this one must be interpreted with caution for several reasons. One problem lay in the relativity of the answers. One respondent's "strongly agree" may have reflected no more feeling than another's "agree" There is also a tendency for a respondent's reaction to move from either extreme toward the center as he becomes more mature. Therefore, the lower scores at the upper grade levels may have reflected more mature reactions rather than less favorable attitudes.

Percentages of responses to individual items yielded more specific information about student attitudes than total scores. The "agree" and "strongly agree" responses had been combined in the succeeding discussion to simplify reporting and interpretation. The frequencies of responses to each item have been supplied in Table VII. This table contains a percentage of students agreeing or disagreeing with each item and a comment indicating whether the percentages of desired responses had increased, decreased or remained the same as previously. The numbers of "undecided" students have been omitted from the chart; therefore, the percentages seldom total 100. The column headed "Comparison with Previous Results" indicates the net change in percentage points since the first testing. Where some startling or irregular pattern in the change was apparent, the evaluator has recorded her comment.

TABLE VII

ATTITUDE TEST ITEMS (SECONDARY)

ITEM	PERCENT AGREE	PERCENT DISAGREE	COMPARISON WITH PREVIOUS RESULTS - PERCENTAGES
1. No matter how much schooling a person has he can still learn from his work.	88.3	7.8	(+) 8
2. All honest work is worthwhile and therefore all workers deserve respect.	85.1	8.9	(+) 10
3. When someone likes the work he is doing his whole life is happier.	92.0	3.0	(+) 17
4. Everyone should expect to keep learning from his work all through his life.	89.2	29	(+) 9
5. A professional person should refuse to do any type of work below his level of training.	6.0	83	No net change (scores decreased then rose again)
6. Most successful people have worked hard.	79.8	10.6	(+) 7
7. In most cases the more education a person has the greater his chances of success.	76.0	11.0	(-) 9
8. Work should be more than just something for which you receive pay.	92.9	3.9	(-) 2 (little change)
9. Every employee should be proud of his work.	89.2	1.0	(+) 2 (little change)
10. Failure to prepare graduates to work is inexcusable.	33.7	16.8	(+) 1 (little change)
11. Training manual skills should be provided only to slow learners.	5.9	74.3	(+) 4

TABLE VII— Continued

ITEM	PERCENT AGREE	PERCENT DISAGREE	COMPARISON WITH PREVIOUS RESULTS-PERCENTAGES
12. Occupational education courses could help students find and keep jobs.	87.3	2.9	(-) 5
13. Occupational education courses can prepare students (or begin preparation for a wide variety of jobs.)	88.3	1.0	(+) 1
14. For the average student occupational education courses are more useful than purely academic courses.	43.4	10.6	(-) 8 (steady downward trend)
15. Better occupational education programs could help reduce the drop-out rate.	74.8	5.6	(-) 3
16. Students who are able to finish college should be discouraged from taking non-academic courses.	5.8	68.9	met no change (scores increased, then decreased steadily)
17. The most important function of occupational education should be preparing people for their future.	96.1	0	(+) 10
18. Schools should provide appropriate occupational education for persons of all levels of ability.	87.3	2.9	(+) 10 (steady upward trend)
19. College oriented courses are as important for college bound students as they are for non-college bound students.	—	—	—
20. A shortage of skilled workers might be as serious to society as a shortage of professionals.	76.2	5.9	(-) 1 (little change)
21. I feel that students who take occupational education are looked down upon by other students.	14.7	61.8	(-) 11 (steady downward trend)
22. There is too much emphasis on occupational education courses in school.	11.8	57.8	(-) 12 (steady downward trend)
23. The major function of the high school should be getting students ready for college.	45.5	39.6	(+) 7 (very irregular changes)
	100		

The pattern of responses in questions 14, 16, 17, 18, 21, and 22 indicated the possibility of serious problems in the Career Education Program. Questions 14, 16, 21, and 22 dealt with the students' perceptions of Career Education as it actually was, and in regard to the status of Career Education students. On the basis of these responses the conclusions could be drawn that Career Education courses may not have been as useful as they should have been, that such courses should not have been given to college-bound students, that the courses have received too much emphasis, and that Career Education students felt that they were regarded by other students as inferior.

On the other hand, responses to questions 17 and 18, dealing as they did with what Career Education should have been, steadily increased in percentage of correct answers. From this the evaluator inferred two possible explanations: either that (1) students expected too much of these programs, and/or that (2) students were becoming disillusioned in respect to the actual state of the programs.

Other responses which appeared significant included: #13, which indicated that the majority still believed the college-preparatory function to be primary for a high school; #1-6, which showed good, positive attitudes toward work; #7, which may have indicated disillusionment in regard to Career Education or toward education in general; and #12, which showed that fewer students believed that Career Education will be useful in obtaining jobs.

Observations and inquiries into other aspects of the program pointed out various situations and implementation problems which may have contributed to the students' attitudes just discussed. A contributing factor

was the physical separation of new occupational programs from the main school building, due to space limitations. The scheduling and transportation difficulties to be expected with these new programs were frustrating to many students. Initially, there were some time lags in obtaining and utilizing sufficient high quality curriculum material at the exact time it was needed, as well as difficulty in recruiting experienced staff members to teach new courses. While these problems were to be expected when any new program is implemented rapidly, and while these problems were minimal in Riverton, the situation, nevertheless, was frustrating to the students. These additional facts have been presented to provide a broad interpretation of the test information obtained.

Qualitative Objectives 8 and 9

(8) To increase interest in obtaining entry level skills.

(9) To increase the student's knowledge of occupational environment and his own abilities.

In order to assess these objectives a survey of occupational knowledge developed for the Riverton district was administered to all students at grades 6-14. Two separate versions of this test were developed and administered, both were subjected to an item analysis, and the most discriminating or useful items from each version were combined. The final version of the test has been supplied in the Appendix.

Total scores for each student were computed by giving one point for each correct answer and subtracting one-half point for each incorrect answer. Since in most cases the probability of success by guessing was fifty per cent, this strict correction formula was judged necessary. Students' averages have been listed in Table VIII.

Since the maximum scores possible on the various versions of the test given at the first, second, third, and fourth testings were not the same, it is impossible to assess change except by comparing the last two testings. These are presented in Table VIII.

TABLE VIII

GRADE	6	7	8	9	10	11	12	CWC
May '73 Testing	24.10	26.70	29.28	30.72	35.72	30.03	34.60	39.27
Nov. '73 Testing	26.11	24.54	21.94	25.39	25.80	27.12	29.06	29.85

The maximum possible score on this test was 54. Since the testing situations were identical for each administration of the questions, there was no ready explanation for the decreases in scores unless boredom and/or hostility played major roles. Students were prone to become irritated in regard to repeated testing.

In order to get some idea of the qualitative changes, it was necessary to examine the results for each item. But even these comparisons may have been questionable, since an administrative error prevented submission of all questions to all students. In cases where only a small number of students responded to a question, results have been labeled questionable. Following is a brief item-by-item discussion of the test including each item itself, per cent of correct responses, and the comparison with previous year's results. The correct answers have been indicated by an asterisk (*).

(1) Below are listed groups of occupations. In each group check the one occupation that is not as closely associated with the others in that group.

a. accountant auditor bookkeeper CPA *stenographer	44% correct - less than previous year (few responses-results questionable)
b.*auditor derrick man driller engineer floorman geologist tool pusher	78% correct - 10% higher than previous year (6th and 7th grades much lower)
c. dispatcher mail carrier postmaster postal clerk *writer	58% correct — less than previous year (results questionable—few responses)
d. dentist doctor *insurance agent nurse physiotherapist x-ray technician	84% correct — less than previous year (results questionable—few responses)

Comment: Students' concepts of occupational clusters not improved.

(2) Below are listed groups of occupations. In each group check the one occupation that requires the most years of preparation.

a.*architect draftsman electrician machinist surveyor	53% correct — same as previous year (25% chose electrician as correct answer)
b. chemist engineer laboratory technician *M.D. pharmacist physicist	49% correct — less than previous year (few responses)

c. engineer oceanographer teacher *veterinarian	47% correct — more than previous year (few responses)

Comment: No improvement — other evidence suggests that students have very little knowledge of this.

(3) Below are listed groups of occupations. In each group check the one occupation that ordinarily has the highest beginning salary.

a.*architect draftsman electrician machinist surveyor	47% correct — same as previous year
b. accountant bookkeeper *CPA file clerk stenographer typist	32% correct - slightly less than previous year. (few responses)

Comment: Students have inadequate knowledge of relative salaries— other evidence supports this.

(4) A person whose major interest is chemistry probably would choose from among which of the following occupations? Check ALL that apply.

	% correct
*chemist	94
civil engineering	93
forestry	84
*geochemistry	80
*laboratory technician	86
*pharmacy	61
*soil scientist	61

Comment: No appreciable change from previous year.

(5) A person whose major interest was English probably would consider which of the following occupations? Check ALL that apply.

	% correct
government employee	93
*journalist	90
*newspaper reporter	75
*proofreader	80
*TV script writer	73

Comment: No appreciable change from previous year -- marked improvement since first testing.

(6) Which of the following workers would ordinarily be self-employed? Check ALL correct answers.

	% correct
*architect	53
clerk	89
construction worker	88
*contractor	58
cook	63
*farmer	91
game warden	86
*lawyer	69
*M.D.	51
nurse	96
policeman	95
salesman	64

	% correct
secretary	92
sheriff	87
teacher	91
*veterinarian	83

Comments: No appreciable change except in architect and salesman--both much lower -- lowest percentage of correct answers associated with self-employed workers, e.g., M.D., contractor, architect -- no apparent reason for this.

(7) People who are concerned about other people would use this quality to a great extent in which of the following occupations? Check ALL that apply.

	% correct
*lawyer	87
*nurse	92
*passenger-service agent	45
*reporter	31
*salesman	22
*secretary	18
*stewardess	81
*teacher	83
*tour guide	55
*waitress	50

Comment: No appreciable change.

(8) People who enjoy both math and out-of-doors would probably use this ability and interest to a great extent in which of the following occupations? Check ALL that apply.

	% correct
anthropologist	38
auditor	90
*civil engineer	50
*surveyor	93
teacher	85

Comment: No appreciable change

(9) People who enjoy adventure and excitement would probably find both in which of the following occupations? Check ALL that apply.

	% correct
claim adjustor	89
*fireman	89
landscape expert	82
naturalist	65
*pilot	85
*policeman	75
publisher	96
*reporter	68

Comment: No appreciable change -- (interesting trend in answers to "claim adjustor" -- during time that Longstreet was on air, this occupation was rated, incorrectly, to be very high in adventure and excitement).

(10) Creative people who enjoy using their imaginations would probably use this ability to a great extent in which of following occupations? Check ALL that apply.

	% correct
*actor	84
*art design	89
*city planner	58
CPA	95
electrician	100
sales	79
secretary	95
*sign painting	100

Comments: No appreciable change since spring, '73 -- slight improvement since first administration of item -- (results of this testing questionable -- low number of responses).

(11) Patient people who enjoy detailed work would be required to use this quality to a great extent in which of the following occupations? Check ALL that apply.

	% correct
*architect	58
artist	32
*auto machine shop	53
*cartographer	42
*civil engineer	26
*data processor	79
farmer	84
hotel manager	58
librarian	26
salesman	58

Comments: Pattern of responses suggest wild guessing -- architect, auto-machine shop, hotel manager, librarian show large decreases --data processor and salesman up -- others unchanged -- this pattern has been observed on all testings-suggests that this concept is foreign to the students.

(12) People who enjoy working with their hands would probably use this ability to a great extent in which of the following occupations? Check ALL that apply.

	% correct
architect	53
*auto-machine shop	74
bookkeeper	58
*carpentry	89
*machine operator	63
photographer	47
*sign painter	84
*surgeon	84

Comments: Little change--bookkeeper and photographer down slightly--(low number of responses to this item).

It seemed apparent that these objectives were being met in a qualified sense. There has been consistent improvement since the beginning of the program in most of these test items. The improvement has been less than that hoped for, and in many cases the present state of knowledge is, in the opinion of the evaluator, seriously low, e.g., questions dealing with years of preparation and beginning salaries (questions 2 and 3).

The self-employment (#6) showed certain seriously low answers--serious when one considers the percentage of students who did not know that certain occupations are generally self-employed.

Also, responses dealing with personality traits (7,8,9,10) and their relation to occupations were disappointing. For example, more than two-thirds of the respondents thought that reporters and secretaries need not be concerned about other people. Further, students recognized that sign painters need creativity and electricians do not, but did not see creativity in city-planning even though the junior high geography teacher provided a unit on the subject.

Finally, the data suggested a certain tendency evident in the fact that students showed more knowledge of trades, labor, and skills than of the professions, businesses, and related areas. This data, combined with that from interviews and other sources, indicated a tendency to evaluate Career Education as being synonymous with "trade schooling."

Qualitative Objective No. 10 - Occupational Decisions

To increase the number of rational occupational decisions.

The assessment of this objective was conducted by having staff members use a specially designed scale (described in a previous section) to rate the appropriateness of students' career choices. Counselors or other faculty members who knew the students well were asked to rate the rationality of students' career choices in terms of abilities, tastes, personalities and other relevant factors. This rating was intended to be an indication of whether or not the career choice was appropriate to a particular student. The average ratings given by the counselors to the students have been supplied in Table X. Ratings given during prior testings have also been given in Table X.

This table should be interpreted with caution because ratings by the same counselor can vary considerably from one year to the next. These ratings should not be compared either from one year to the next or across grade levels.

TABLE X

RATING OF CAREER CHOICES AND COMPARISONS

Grade	7	8	9	10	11	12	CWC
N	13	15	7	12	11	8	Not Available
Average Rating-- 3rd Testing	7.38	7.67	7.0	6.8	7.6	6.8	
Average Rating-- 2nd Testing	5.8	6.4	7.7	7.5	7.9	7.4	7.3
Average Rating -- 1st Testing	8.0	8.4	7.2	5.7	6.7	7.0	6.9

The stability of students' career choices was also of interest. Therefore, percentages of students who changed their choice of a career during the period of the third and fourth testings were tabulated and these figures have been given in Table XI.

TABLE XI

CHANGES IN STUDENTS' CAREER CHOICES

Grade	Junior High	Senior High
% Changing Career Choice	45	65
Undecided	10	6
N	31	31
Total % Changing or Undecided	55	71

In the spring of 1973, the evaluator noted that the changes made by the students seemed excessive. Changes were counted only when they were from one cluster to another. In many cases these changes appeared radical and illogical as when one girl changed her choice from veterinarian to stewardess. Another consideration was that self-report data are always questionable, although in this case there was no evidence to suggest that the students resented the question or were giving false information.

No national norm for students' changes in careers were available. However, the evaluator felt that more than 71% of high school seniors should have fairly definite career plans. On the other hand one would have expected a great deal of indecision by junior high students who would be in the process of exploration and discovery. Some interviews

with students were conducted in an attempt to determine the reasons for these excessive changes. Senior high students interviewed reported haphazard attempts to obtain career information from clubs, parents, or informal conversations with teachers. Seniors claimed that there had been little systematic help available to them. The results of this and other interviews have been summarized in a later section.

The basic question which evolved is this: is this indecision of the students a natural reaction to a new program, and one which will correct itself in several years-- or is it an indication of a serious deficiency in the program? The present senior high students may have been changing their minds often because they had only recently been exposed to career information, or they may still have had inadequate information. In either case, there appeared to be cause for concern for members of the guidance staff.

QUANTITATIVE OBJECTIVE NO. 4 - AVERAGE DAILY ATTENDANCE

To increase the ADA ____% each year.

The average daily attendance in all District #25 schools was close to maximum at the beginning of the project and remained near that level throughout the project. Considering the realities of Wyoming winters and childhood illnesses it seemed unreasonable to expect the attendance, especially in the elementary schools, to rise to levels higher than the present ones. The average daily attendance for the years in question have been shown in Table XII.

TABLE XII

AVERAGE DAILY ATTENDANCE EXPRESSED AS A PERCENTAGE OF THE SCHOOL ENROLLMENT

SCHOOLS	1970-71	1971-72	1972-73	1973-74
Ashgrove	96%	95%	95%	Not available
Jackson	96%	95%	96%	until end of
Jefferson	94%	95%	93%	year.
Lincoln	96%	96%	96%	
Riverton Junior High	95%	95%	94%	
Riverton Senior High	95%	93%	92%	
Gas Hills	95%	85%	99%	
Central Wyoming College		Not applicable		

Quantitative Objective No. 5 - Failures

To reduce the number of grade failures by ____% per year without altering academic standards.

Information to determine the percentages of failures was collected from school records in the district offices. These percentages of failure were calculated and have been given in Table XIII following.

TABLE XIII

FAILURES EXPRESSED AS A PERCENTAGE OF ENROLLMENT

SCHOOLS	1970-71	1971-72	1972-73	1973-74
Ashgrove	2.24%	2.02%	1.66%	
Jackson	0	.81%	0	
Jefferson	0	0	0	
Lincoln	1.37%	2.27%	0	
Riverton Junior High	.62%	0	**	
Riverton Senior High	7.58%*	7.6%*	**	
Gas Hills	0	2.27%	0	
Central Wyoming College		Not applicable		

*represents course failures - not grade level failures

**not available

It appeared that there had been no appreciable change in the numbers of grade level and course failures in this district, with the possible exception of the senior high school.

Quantitative Objective No. 14 - Course Offerings

To increase the number of course offerings in occupational areas by two courses per year.

The figures given in Table XIV following were obtained from school records. The number of students enrolled in occupational education courses has steadily been increasing over the past three years.

TABLE XIV

ENROLLMENT IN OCCUPATIONAL COURSES

YEAR	TOTAL NUMBER OF STUDENTS ENROLLED	% of 1970-71 ENROLLMENT
1970-71	438	107%
1971-72	468	119%
1972-73	522	
1973-74		

TABLE XV

NUMBER OF COURSES OFFERED IN OCCUPATIONAL EDUCATION

YEAR	NUMBER OF COURSES	% of 1970-71 NUMBER
1970-71	17	47%
1971-72	25	59%
1972-73	27	188%
1973-74		

Quantitative Objective No. 7 - Dropout Rate

To decrease the dropout rate by _____% each year.

The figures given in Table XVI were obtained from school records. The dropout rate has been expressed as a percentage of the total school enrollment.

TABLE XVI

DROPOUT RATE EXPRESSED AS A PERCENTAGE OF ENROLLMENT

SCHOOLS	1970	1971	1972
Riverton Junior High	1.1%	1.0%	2.4%
Riverton High School	7.5%	7.6%	6.5%
Central Wyoming College	11 %		

Other Objectives

Certain objectives were not assessed because of the difficulty of obtaining the information necessary from the staff involved. They were as follows:

Quantitative Objective No. 6

To increase the number of parental conferences requested by _____% per year.

Quantitative Objective No. 9

To increase the number of requests for career guidance services by _____% each of the following years.

Quantitative Objective No. 10

Of those students who do not plan to enter a post-secondary school the number of job entry skills will increase to 100% in three years.

Quantitative Objective No. 11

To increase the number of students using W.O.R.K. kits to 80% of the students enrolled within three years.

Information has not been collected to assess these objectives because keeping accurate records would have placed an unwarranted stress upon already overburdened classroom teachers. The subjective opinion of teachers and counselors was that these objectives have been met. It should be noted that this was solely subjective opinion.

Summary of Findings Based on Quantitative Data

In order to determine the extent of elementary students' awareness of various occupations and clusters of occupations, they were asked to list as many occupations as they could. Students at all grade levels except the 6th grade listed more occupations than previously. This lack of increase at Grade 6 was probably due to boredom, since it had been noted previously that junior and senior high students assigned this task soon reached a stage of boredom which inhibited their performance. On the basis of these results, one could safely conclude that the students did indeed have a wider knowledge of various occupations. These results were consistent, whether comparing the performance at the same grade level in successive years, or comparing the performance of the same students from year to year. The greatest gains occurred in grades 2-5, suggesting that teachers at these grade levels should concentrate on acquainting the students with as many occupations as possible.

As an indirect measure of students' attitudes toward work, students at all grade levels were asked to list as many good work habits as they could. The numerical gains in the numbers of good work habits listed were slight at all levels; however, the qualitative gains were quite meaningful. Even though this was a subjective interpretation, the types of habits and

the students' insight into what is necessary to be a good employee seemed to be improving.

At both elementary and secondary levels the attitudes of students towards occupational education were tested using a specially devised attitude scale. The test administered showed that at the elementary level, students' scores were increasing on all questions. At the secondary level, there was less increase than expected. An item-by-item examination of both tests was conducted. This item-by-item comparison revealed that, in general, secondary students were developing a more sophisticated attitude towards occupational education, but they appeared to be disillusioned with the program as it exists presently. The reason for this was unclear and should be determined through interviews with the students. At all grade levels there appeared to be some uncertainty as to the purpose of schooling. The majority of elementary students indicated a belief that everyone should go to college. Nearly half of the secondary students also believed that the purpose of public education is to prepare students for college. These responses were inconsistent with prior responses made by both groups concerning the value of work and the value of occupational education.

A survey of occupational knowledge was conducted to determine some of the students' general requirements and characteristics of various types of jobs. Some results of this survey suggested that students had a fairly well developed concept of clusters of occupations. They also had a relatively accurate idea of the amount of time required to prepare themselves for various occupations; however, they did not have a very accurate idea of the relative salaries of various occupations, nor did they have

an accurate idea of which of the occupations characteristically require self-employment as opposed to working for other people. There was some improvement in their knowledge of the applications of academic subjects to various occupations, particularly in occupations in which either chemistry or English would be useful. A large group of questions dealt with personal qualities, such as creativity and patience, that are related to certain occupations. Most of these responses left a good deal of room for improvement, particularly the questions dealing with qualities such as concern for others, creativity, patience, or manual dexterity.

Students were asked to indicate their current career choices based on their present plans. A comparison with their previous answers showed a very high percentage of changes,— sixty per cent among 12th grade students. While one would expect a high level of changes among junior high students who are in the process of exploration and self-discovery, this percentage seemed entirely too high for high school seniors who should have some fairly clear idea of what they are going to do once they graduate from high school. Regardless of the reason for these changes, this situation pointed to a need for concern by the guidance staff.

Several types of group data from the existing district records were examined for their implications for occupational education. It was found that the average daily attendance was quite satisfactory and was close to a maximum. The enrollment in occupational education and the number of course offerings were both increasing. It was also found that the number of course failures at the senior high level had nearly tripled and that the dropout rate had increased. The reason for these changes has remained unclear.

F. Conclusions, Implications, and Recommendations for the Future

It is the nature of evaluation that discrepancies or problems must be noted, while praise is often awkward and out of place. The recommendations and conclusions that follow should be taken less as criticism than as well-meant suggestions for improvement in this program, or in subsequent programs that may be modeled after this one.

In general, the evaluation of this program revealed certain significant findings. First, the curriculum development processes were excellent and could serve as models for future development both in this district and in other districts which may choose to copy this program. Second, the elementary awareness program was equally outstanding and could serve as a model for a similar program in any part of the country. Third, the administration of the project has, in most cases, been outstanding. Fourth, the guidance program as related to Career Education has been weak or, in some instances, virtually non-existent. Finally, a dichotomy between academic and vocational subjects, orientation, and philosophy was strong when the program began and is still strong. There are indications that the dichotomy will become even stronger. These conclusions are based on observations by the evaluator and other evaluators, on interviews with students, faculty and staff, and on test results and other quantitative information.

Curriculum Development

The process of curriculum development in this district has been outstanding and could be emulated at any grade level by any district in the country faced with the problem of developing special curriculum. The

involvement of lay advisory groups has been noteworthy. Much of the material developed in this district may be adapted for other Career Education projects, although it may be necessary to examine carefully or alter the material to meet the specific requirements or locale of any other district. The process, and the documents produced to describe the process, are, however, extremely useful and applicable to any district. Specific outstanding accomplishments include the development of LAPs (Learning Activity Packets), the development of TRUs (Teacher Resource Units), the development of ETOs (Expected Terminal Outcomes), the validation of objectives, the process of cross-articulating curricula, and the fact that the trained cadre of staff members is now located within the district. (Fot further information, see Appendices E, F, and G). The validation of objectives is a complex process utilized in Riverton to assure that classroom objectives pertaining to skill courses are directly related to necessary skills which a student will require later, when on the job. The entire process involves both the community and local practitioners of specific vocations, in order to ensure that the course objectives in a skill course are not only relevant, but also are a complete indication of what a student will need to know in order to function effectively in a particular job. "Cross-articulation" is a term coined in Riverton to indicate the assurance that certain academic courses will cover applications required in certain skill courses, e.g., English for secretaries, or math for draftsmen. In many cases, development of units such as these has been outstanding. Finally, an original objective of the project suggested that the local staff should be trained so that a cadre of competent people would remain in the district when

federal funding ceased. This has now been accomplished and in the opinion of the evaluator, this group of teachers is not only trained and competent, but also committed to the principles of Career Education.

The Guidance Program

According to the original proposal for an exemplary project in Career Education, the guidance program was to be an essential component of the undertaking. The ideal described in the original proposal was that each student would in the early grades receive training in awareness and orientation towards careers, and then would have an opportunity to have his own abilities, tastes, and talents assessed and diagnosed, following which he would be counseled in choosing a career appropriate to his own individual abilities, tastes, or talents. In short, the problem was that of matching a student to an appropriate job, then aiding the student in choosing the most rewarding curriculum for him. Designing and choosing the curriculum called for close cooperation between counselors and teachers.

Judged against this ideal, the guidance program connected with this project has been poor. Specific evidences of weakness are revealed in student interviews. (A summary of the interviews is attached. See Appendix M). The frequency with which senior high school students changed their choice of a job, and the lack of follow-up on the OVIS and similar tests, combined with the fact that the duties of the vocational counselor were changed to include many administrative duties — all were indications or causes of severe shortcomings in the counseling area. Furthermore, there has been little evidence that any curriculum has been planned jointly among the counselors and the teachers. Most of the curriculum has been

chosen on the basis of availability and feasibility, and the students have reportedly had very little career guidance.

The problem appeared to be an honest difference in philosophy between the writers of the original project and the Riverton staff, particularly the guidance and counseling staff. The project staff and the district administrative personnel did not apparently perceive the role of counselors to be essential to Career Education. The original counseling staff was a typically academically oriented staff burdened with administrative chores and rightfully concerned with students' personal problems. There has been very little attempt to provide them with new strategies, approaches or other ways of dealing with the demands of Career Education, nor have they indicated a need or desire to acquire new techniques. They have access to the OVIS test results, but report that they have not used it due to time constraints. The vocational counselor hired with project funds was burdened with administrative duties from the start, and eventually his title was changed to indicate his changed duties. The fact was that the vocational counselor had very little, if any, contact with students.

These comments should not be read as a reflection upon the competence of any individual. Rather, they are intended to point out the problems that may occur when there is a difference in philosophy or emphasis, when these problems are not understood by all concerned, and when these problems consequently are not dealt with at the inception of the project. Recommendation: A clearer role definition is mandatory. A counseling component is essential to a Career Education program. The administration

of the district, as well as its school board, should recognize this and plan accordingly. Then, counselors' duties should be allocated to their time available, and new strategies, techniques and materials should be made available for them where necessary.

Dichotomy Between Academic and Vocational

The basic purpose of Career Education necessitates merging the academic and vocational aspects of any curriculum. The line between these two should be erased so that certain subjects become vocational for everyone. (For instance, Latin could become a vocational tool for a student who plans to become a linguist or a priest). This merging of the academic and vocational has not occurred in Riverton except in limited individual cases. The unavoidable physical separation of the senior high school and the new vocational-technical center emphasizes the philosophical separation of academic and vocational aspects of the curriculum. Testing revealed that students believed the purpose of schooling to be college preparation, and in interviews, staff members, except the two top-level administrators, used "career education" synonymously with "vocational courses." This viewpoint, that Career Education and vocational courses are synonomous, is typified by a statement by one administrator who has been very favorable towards and supportive of the Career Education program who wrote in October 1973: "... school has for the first time become involved in the Career Education program." He then proceeded to list the numbers of students enrolled in courses such as, drafting, auto mechanics, typing, etc.

In awareness activities many elementary teachers have concentrated

on the skill, trade, and manual labor occupations to be found within a particular cluster. Many of them have totally avoided any professional, semi-professional, or business occupations related to clusters. Student interviews have revealed that most students equate Career Education with skill courses, while test results have revealed that a substantial percentage of students agree with the statement: "Students enrolled in occupational education courses are looked down upon," and that students doubt the utility of occupational educational courses. Furthermore, many of these students feel that occupational education courses should be inaccessible to college bound students.

The reason for this dichotomy appears to the evaluator to be similar to the reasons for the counseling problems. Apparently the district administrative staff was not sufficiently aware of the need for philosophical and pragmatic cohesion throughout the program. The necessity of a cohesive and totally integrated program was not seen, and was consequently not developed (above the K-6 level). The "success" of Career Education was often measured in terms of the numbers of students in trade courses.

Elementary Awareness Program

This program has been outstanding in all respects from curriculum development to implementation, and could well serve as a model for any other district in the nation which is developing a similar program. The evaluator has only one reservation; in the beginning some teachers tended to stress manual or skilled jobs while underplaying professional or business-related jobs. This program has been one of the strongest points

of the project and has justly received national recognition. The achievements of this component have also been reflected in the students' test scores. These scores reveal a tremendous increase in students' awareness of numbers of jobs, in their attitudes towards work, and in their knowledge of good work habits. At the present time, the program is quite strong, but somewhat uncoordinated. The project disseminator reports that increasingly large amounts of Career Education materials are being requested by teachers; however, there is presently no provision for orienting new teachers who come into the district, nor for over-all coordination of the elementary awareness program.

Recommendation: The district administration should consider assigning a qualified person the responsibility of supervising and coordinating the elementary awareness program.

The Administration of the Project

A great deal of the success of this project must be attributed to the outstanding leadership which it received in the beginning from the local project director and from the Wyoming State Department of Education. The local director established good rapport with the entire staff and recruited competent, knowledgeable people as project staff members. The fact that the project director maintained good rapport with the staff was remarkable since there were internal administrative problems which were unrelated to the project. Nevertheless, these problems resulted in a noticeable morale drop within the district.

Furthermore, the staff recruited, showed a tremendous commitment to the project. Either the original director was able to inspire this,

or was wise enough to recruit committed staff from the beginning.

There were some administrative problems related to the loss of the director and to the loss of an outstanding elementary principal. There have been the usual problems of changeover—that is, orienting new personnel to the district staff procedures and vice versa. Also, efforts to orient the new director to the philosophy embodied in this project have apparently been inadequate. The new director in turn was unable effectively to lead the new staff, including three new elementary principals. He has continued the tasks related to the new vocational-technical center, that is, staffing and equipping it and developing objectives-based curriculum. This aspect is going quite well, but the other aspects of the program are suffering.

Again, the evaluative opinions expressed in the preceding paragraph are not meant to reflect on the competence of any individual, but simply represent an interpretation of what is happening within the project at this point. The new director appears to be a sincere, hard-working person who is honestly carrying out the project in the fashion he thinks proper. The difficulties apparently have risen through differences in philosophy which were not fully discussed and resolved at the time the appointment was made.

Future Course of Career Education in Riverton

The ideal of Career Education embodied in the original proposal involves developing awareness in students at the elementary level, followed by orientation, including guidance, to provide students with self-knowledge, and to enable them to make a rational career choice. Finally, once

students have made their own career choices, guidance procedures should place them into the curriculum which may be most beneficial to them. Under such a program, a school should be equipped to offer a wide variety of programs from college preparatory to terminal. The school program should be based on joint planning and cooperation between the guidance staff and the teachers. Throughout this ideal program, the elementary and junior high awareness function is vital, as is the guidance function of the counselor.

Unfortunately, what is now happening in Riverton, is that the vocational-academic dichotomy, which existed four years ago, still exists and continues to grow stronger. In view of the physical separation of the academic high school and the vocational-technical center, extra efforts from the administration will be needed to maintain a cohesive program. The nationally-recognized elementary awareness program now apparently depends on the uncoordinated efforts of certain energetic and committed teachers. There is virtually no guidance related to Career Education. If the present vocational guidance counselor does not continue in the district, there will be almost nothing related to guidance in career choice. Even if he does continue, and operates an office in the vocational-technical center providing only for students enrolled in trade courses, there will be virtually no Career Education guidance in the district. It appears that most students in senior high will drift either into college or into the technical center without preparation for or awareness of what they are most in need of for career training. The most encouraging situation is to be found in the junior

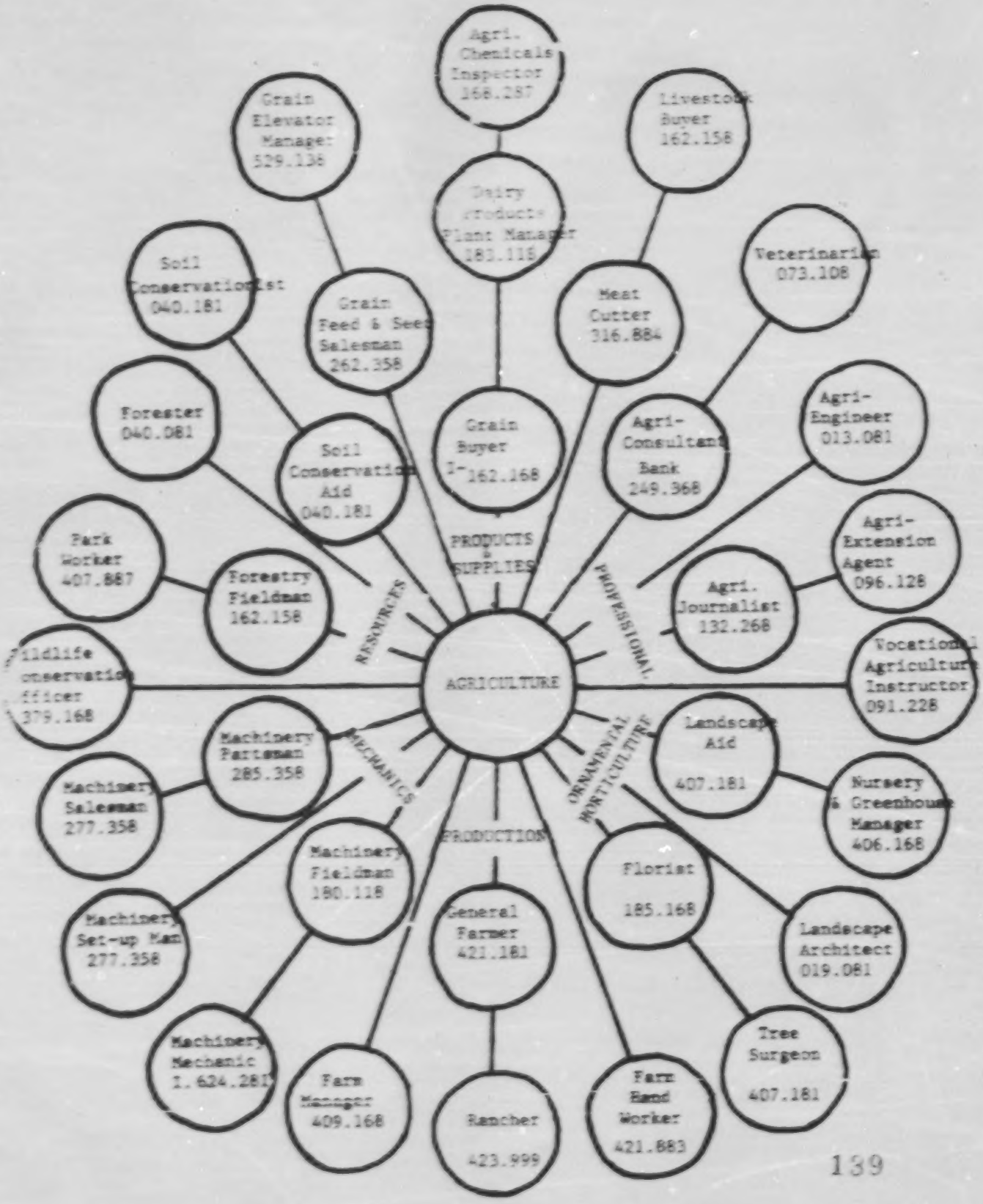
high orientation class, which apparently provides students with a great deal of information which they can use in planning. (The reader should refer to the student interviews.) Even this outstanding class has been of limited benefit due to lack of followup.

Recommendation: The evaluator feels very strongly that the district administration and the school board should carefully consider the two conflicting philosophies of Career Education, decide on the approach to be followed in Riverton, and then take a stand and require all staff members to adhere to stated priorities. If the Career Education program described in the original proposal is to succeed there must be support from the top levels of administration, and there must be a corresponding allocation of duties and time.

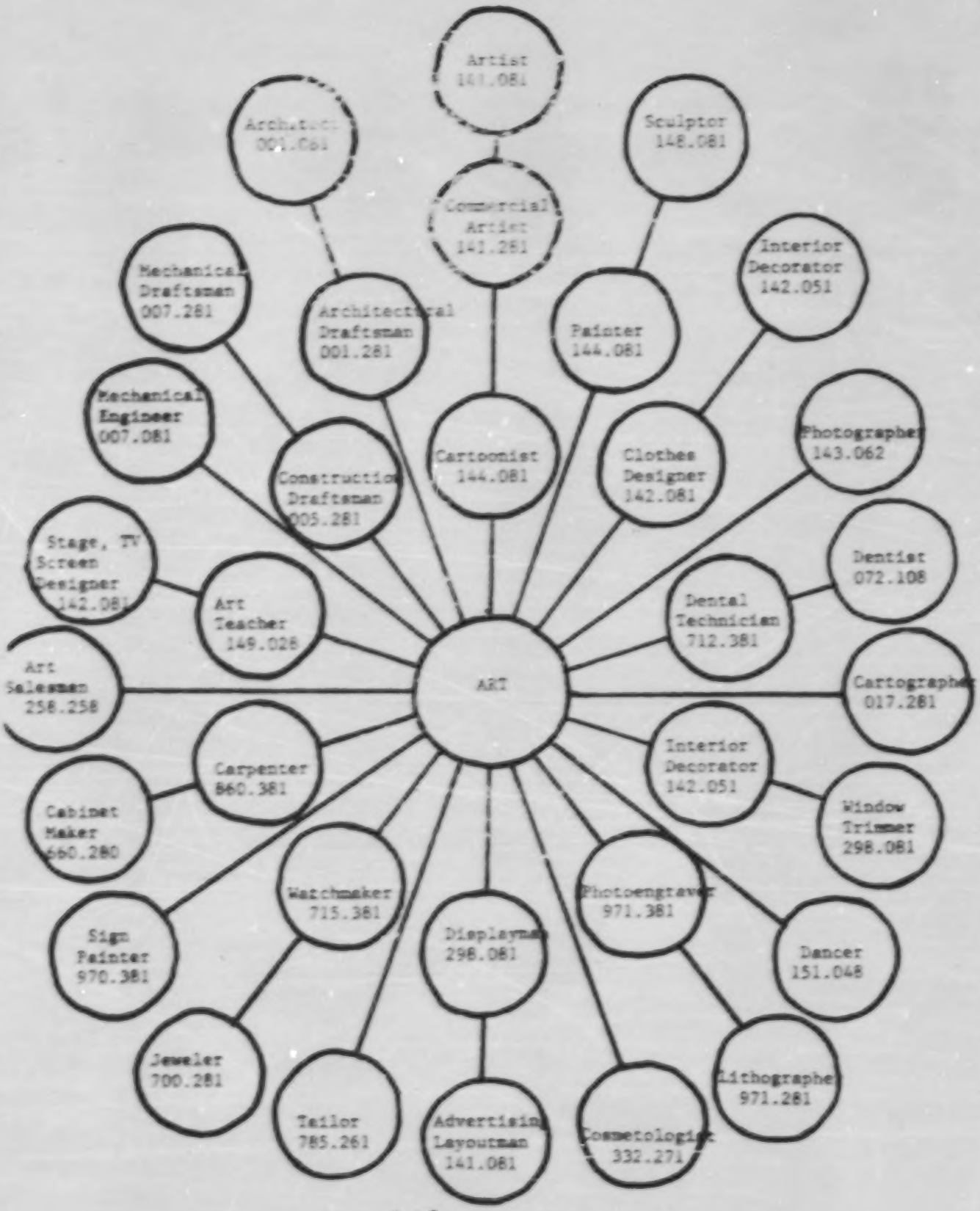
APPENDIX A

Charts Relating Academic Subject Matter To Occupations

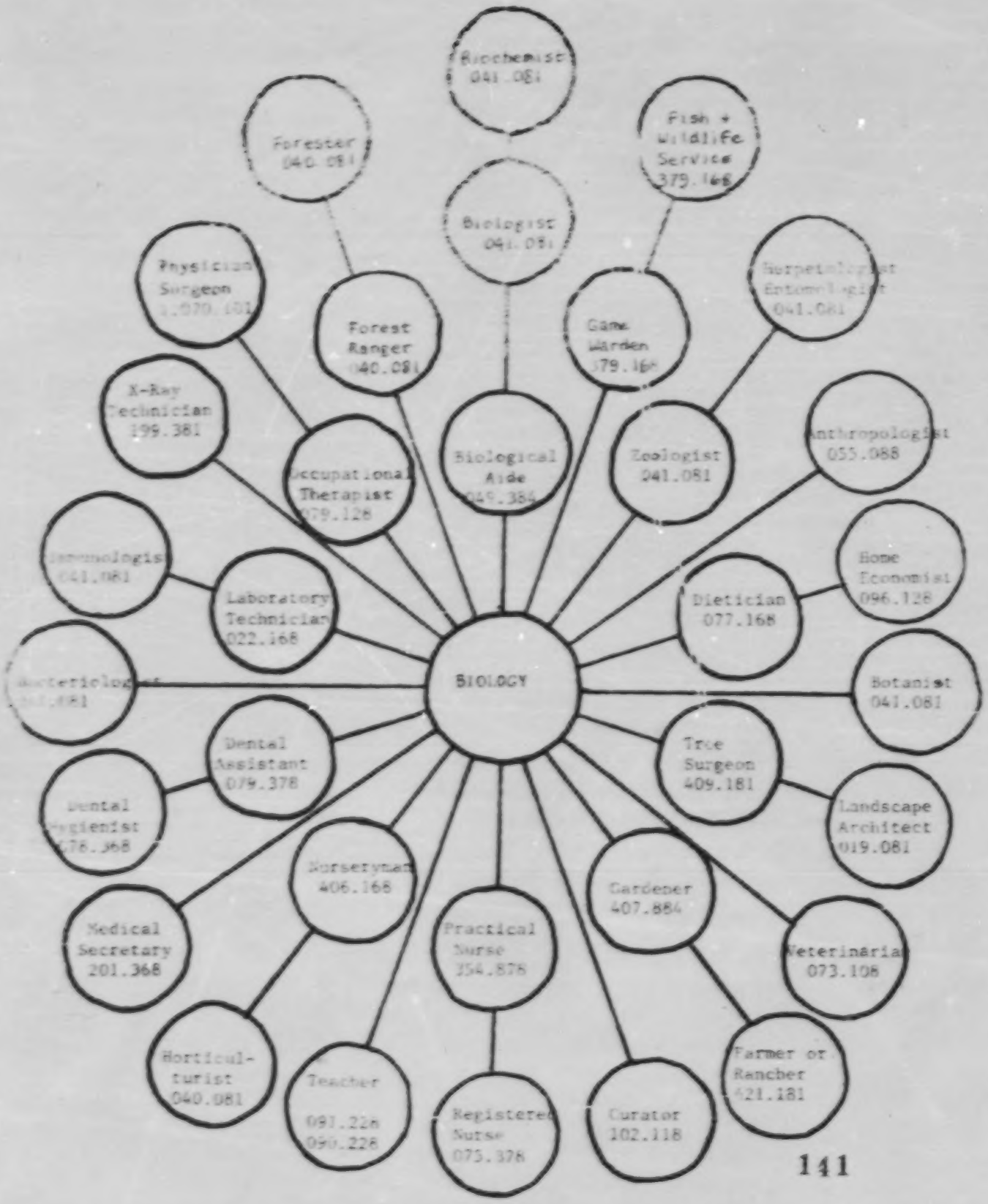
SOME OCCUPATIONS RELATED TO INTEREST AND ABILITY IN AGRICULTURE



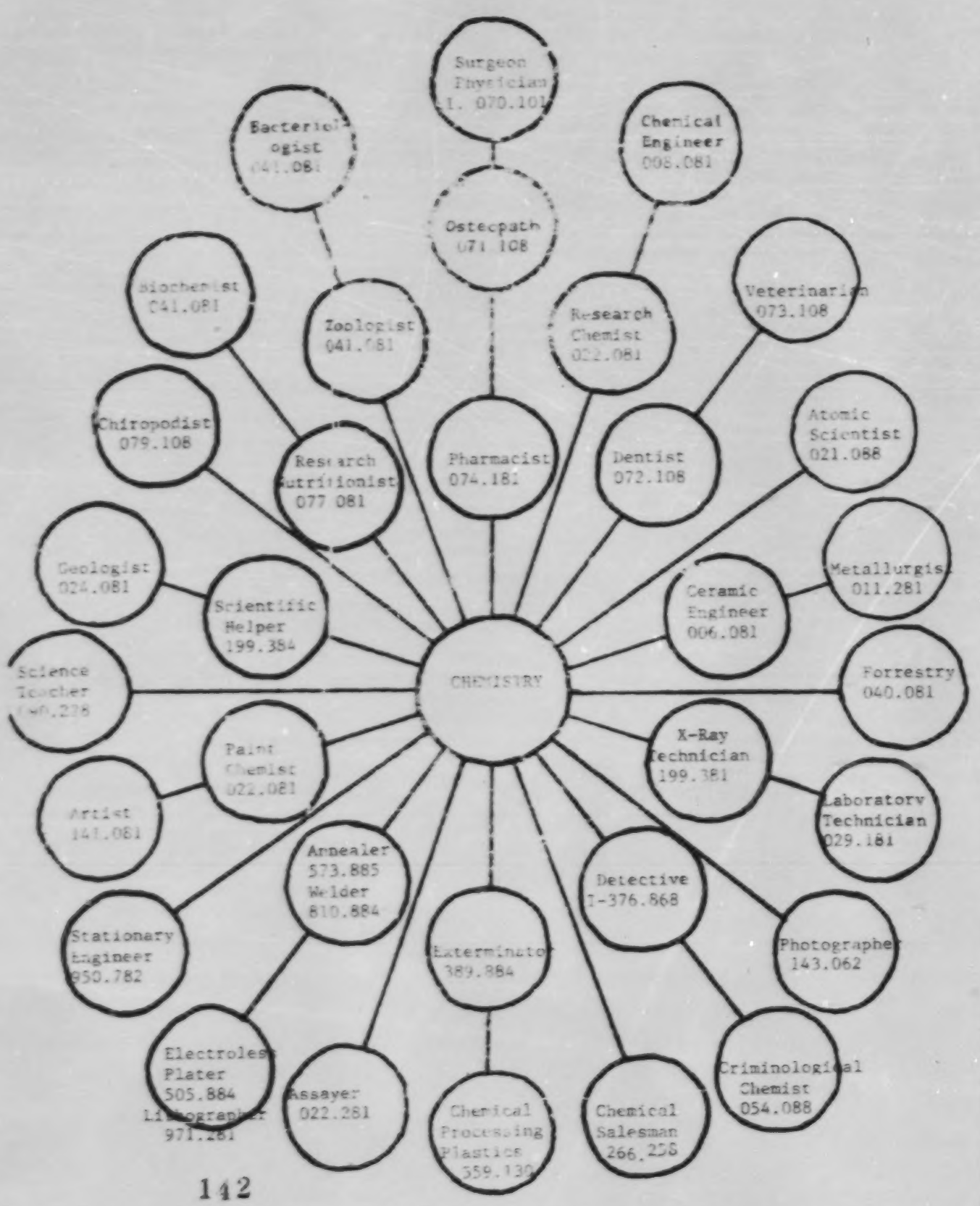
SOME OCCUPATIONS RELATED TO INTEREST AND ABILITY IN ART



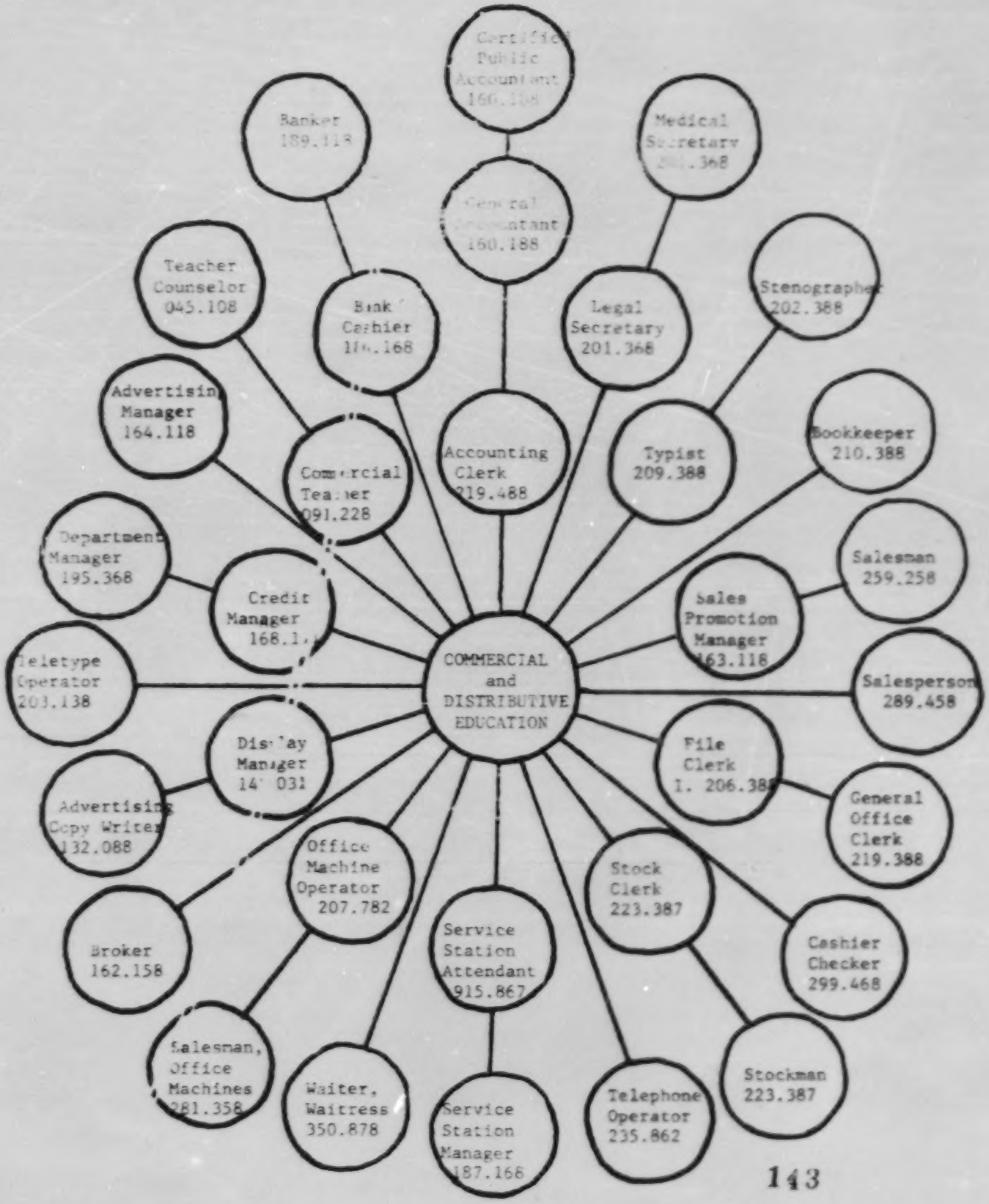
SOME OCCUPATIONS RELATED TO INTEREST AND ABILITY IN BIOLOGY



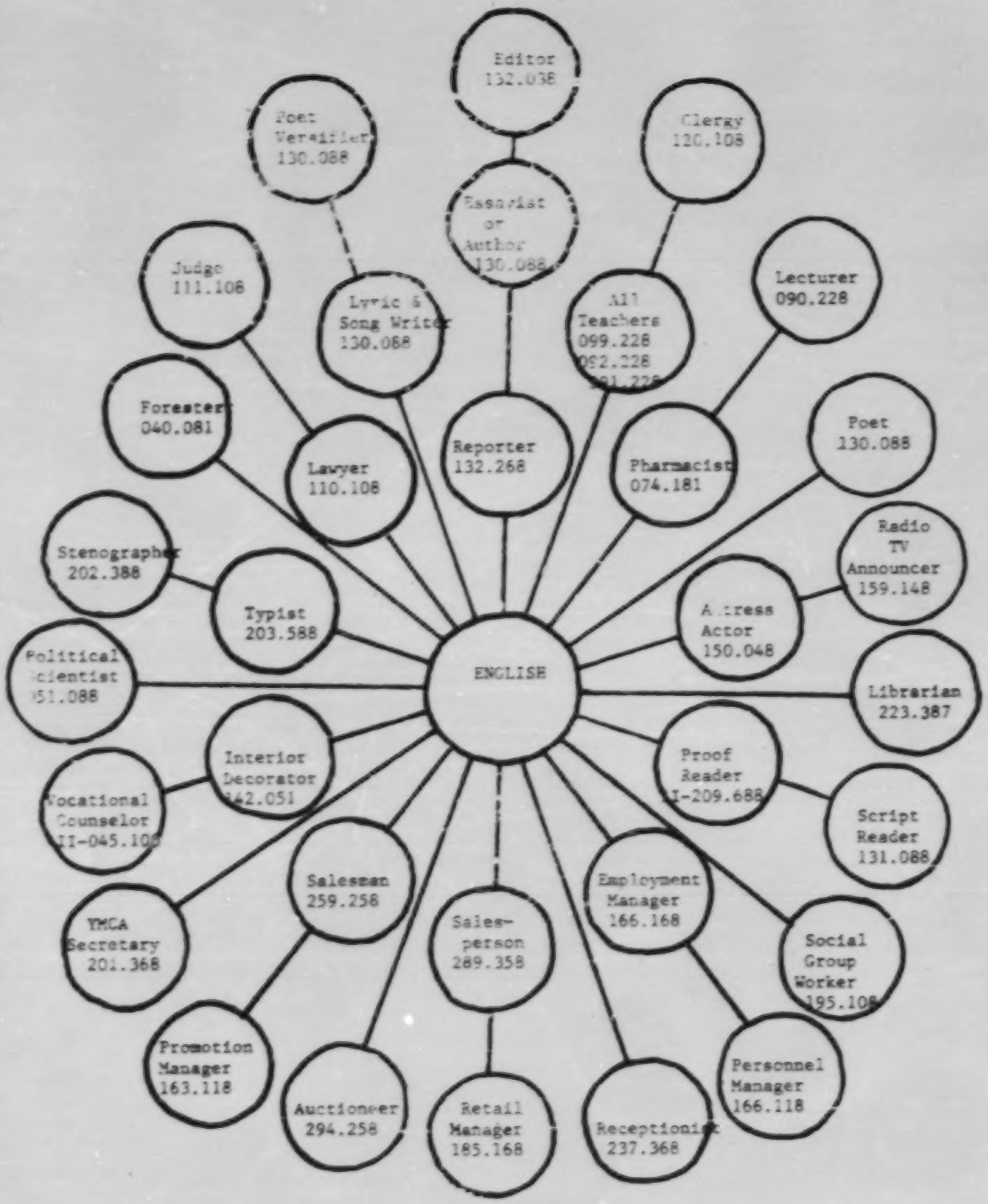
SOME OCCUPATIONS RELATED TO INTEREST AND ABILITY IN CHEMISTRY



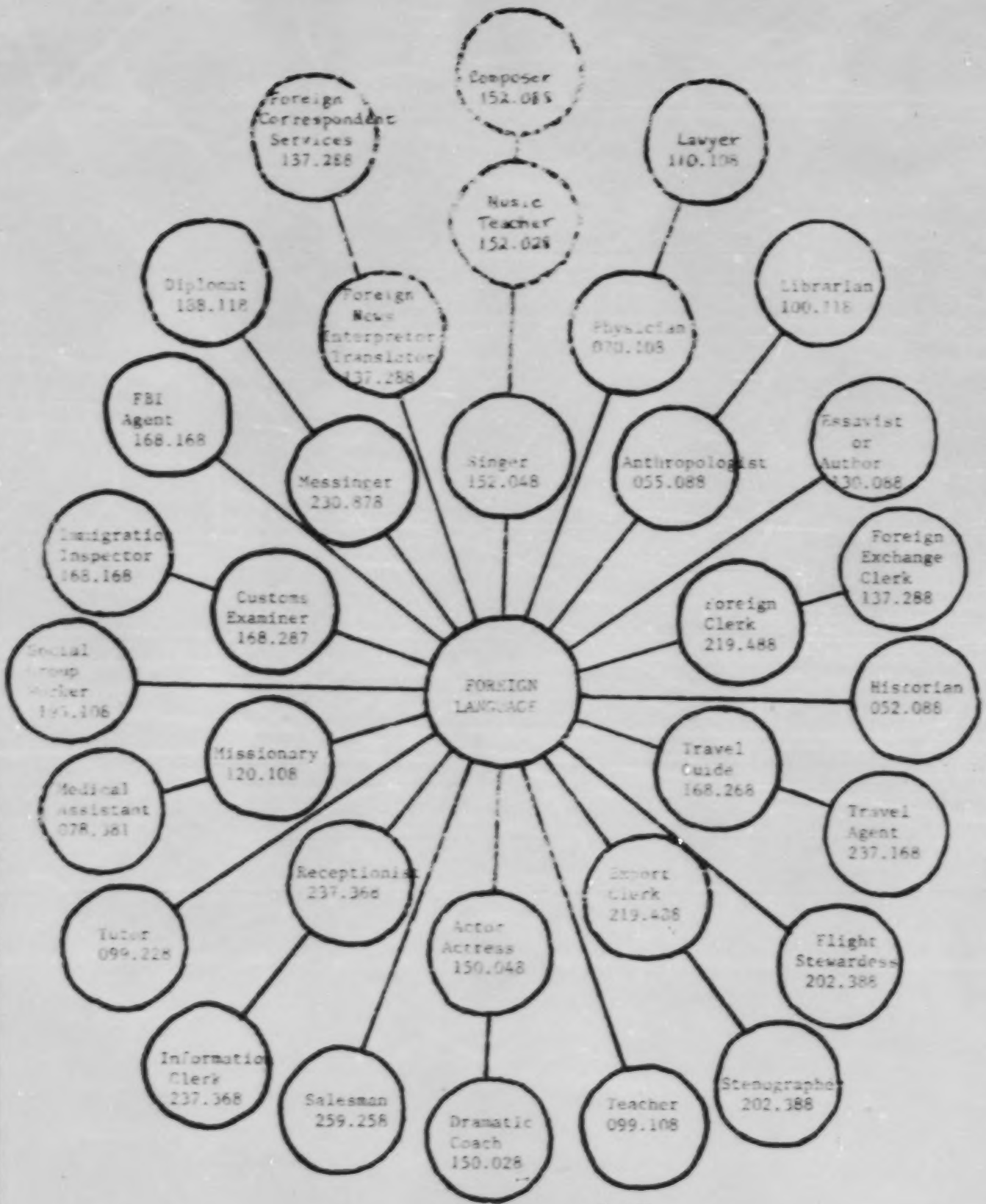
SOME OCCUPATIONS RELATED TO INTEREST AND ABILITY IN
BUSINESS TRAINING AND DISTRIBUTIVE EDUCATION

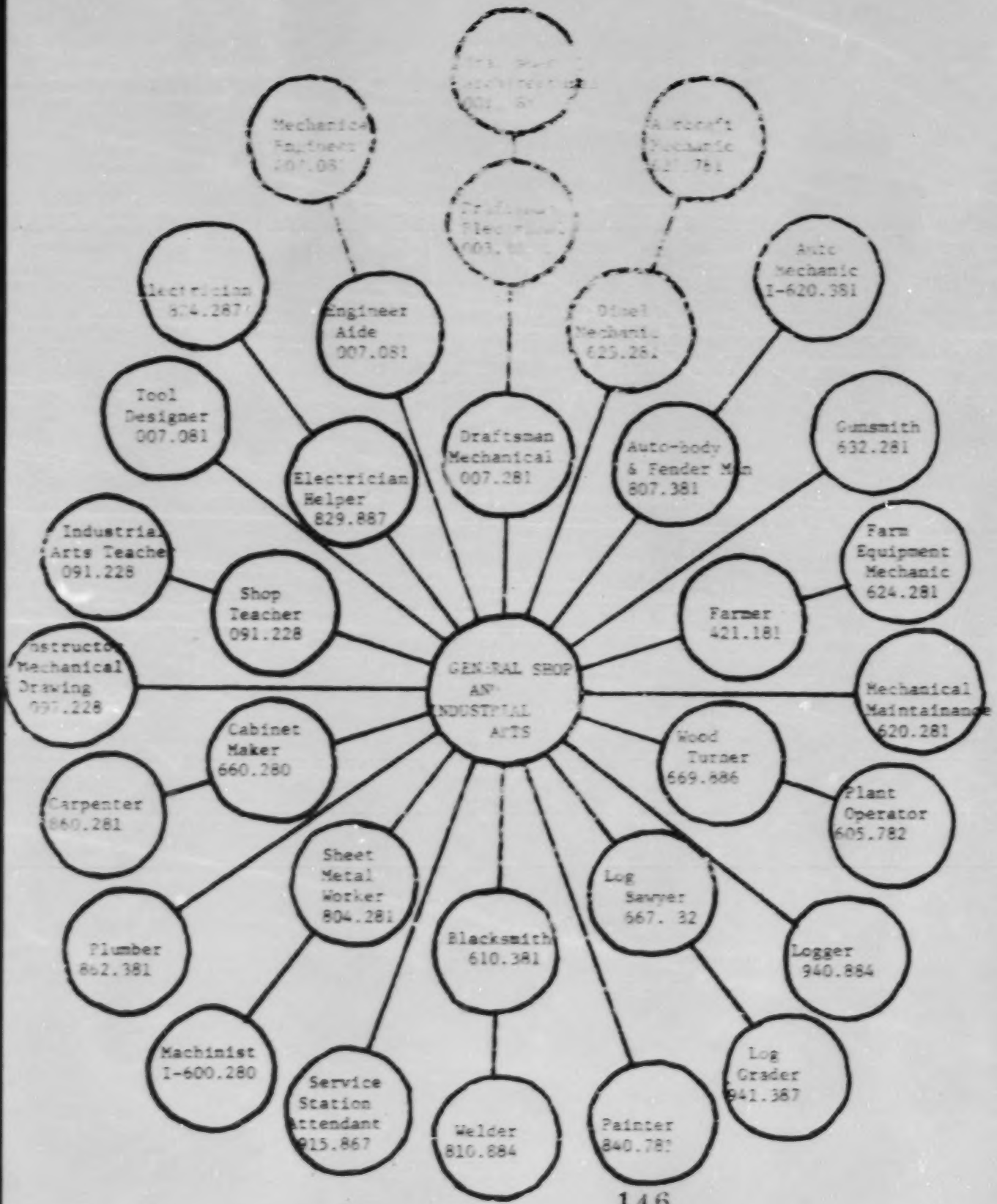


SOME OCCUPATIONS RELATED TO INTEREST AND ABILITY IN ENGLISH

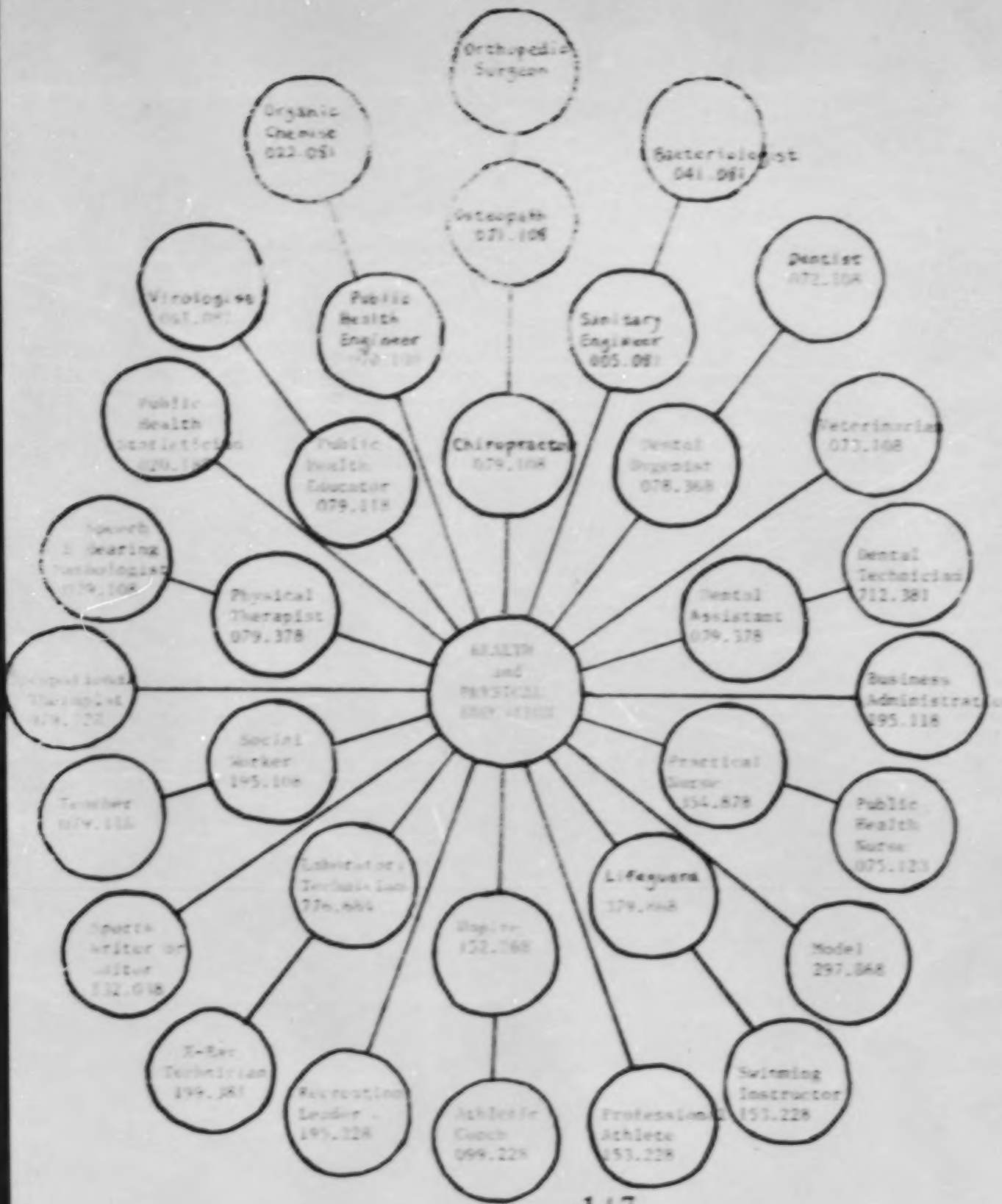


SOME OCCUPATIONS RELATED TO INTEREST AND ABILITY IN FOREIGN LANGUAGE

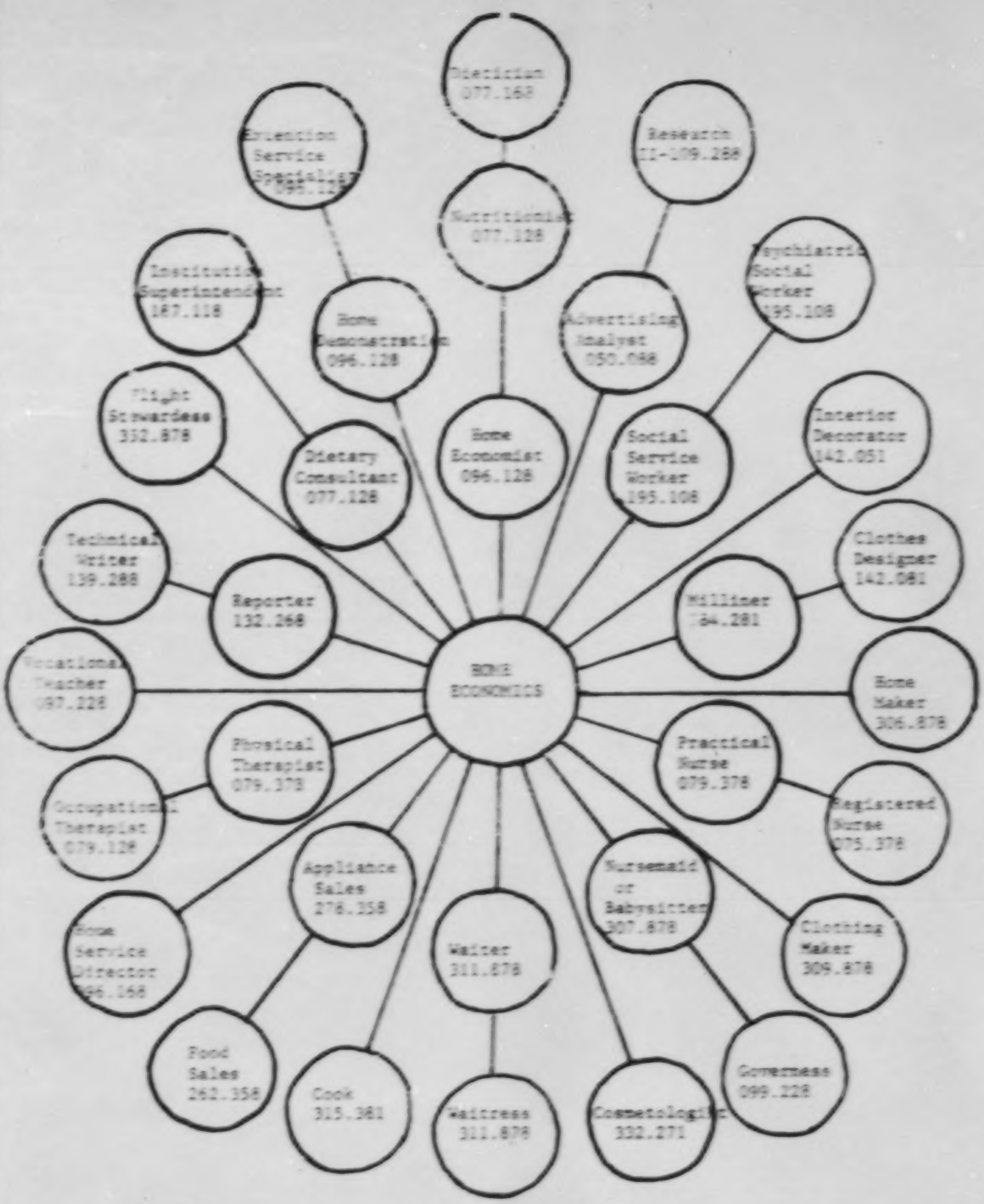


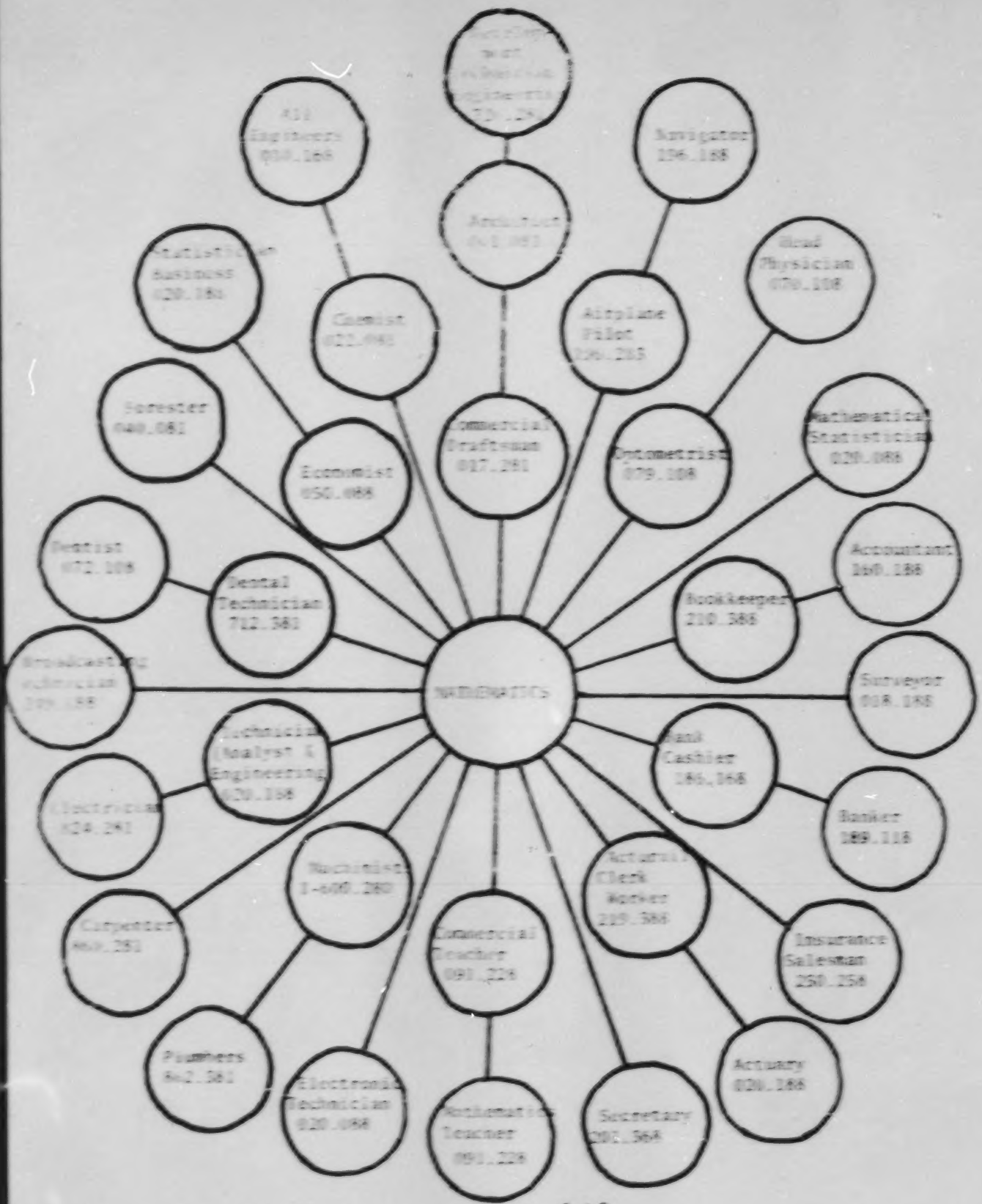

GENERAL SHOP AND INDUSTRIAL ARTS
Engineer Aide 007.081
Draftsman Mechanical 007.281
Auto Mechanic I-620.381
Gunsmith 632.281
Farm Equipment Mechanic 624.281
Mechanical Maintainance 620.281
Plant Operator 605.782
Logger 940.884
Log Grader 941.387
Painter 840.781
Welder 810.884
Blacksmith 610.381
Log Sawyer 667. 32
Sheet Metal Worker 804.281
Service Station Attendant 915.867
Machinist I-600.280
Plumber 862.381
Carpenter 860.281
Cabinet Maker 660.280
Wood Turner 669.686
Farmer 421.181
Auto-body & Fender Man 807.381
Electrician Helper 829.887
Tool Designer 007.081
Shop Teacher 091.228
Industrial Arts Teacher 091.228

SOME OCCUPATIONS RELATED TO INTEREST AND ABILITY IN
HEALTH AND PHYSICAL EDUCATION



SOME OCCUPATIONS RELATED TO INTEREST AND ABILITY IN HOME ECONOMICS




Navigator
196.168
Airplane Pilot
196.263
Commercial Draftsman
017.281
Dentist
072.108
Dental Technician
712.381
Bookkeeper
210.388
Accountant
160.188
Surveyor
018.188
Bank Cashier
186.168
Banker
189.118
Insurance Salesman
250.258
Actuary
020.188
Secretary
201.368
Mathematics Teacher
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Commercial Teacher
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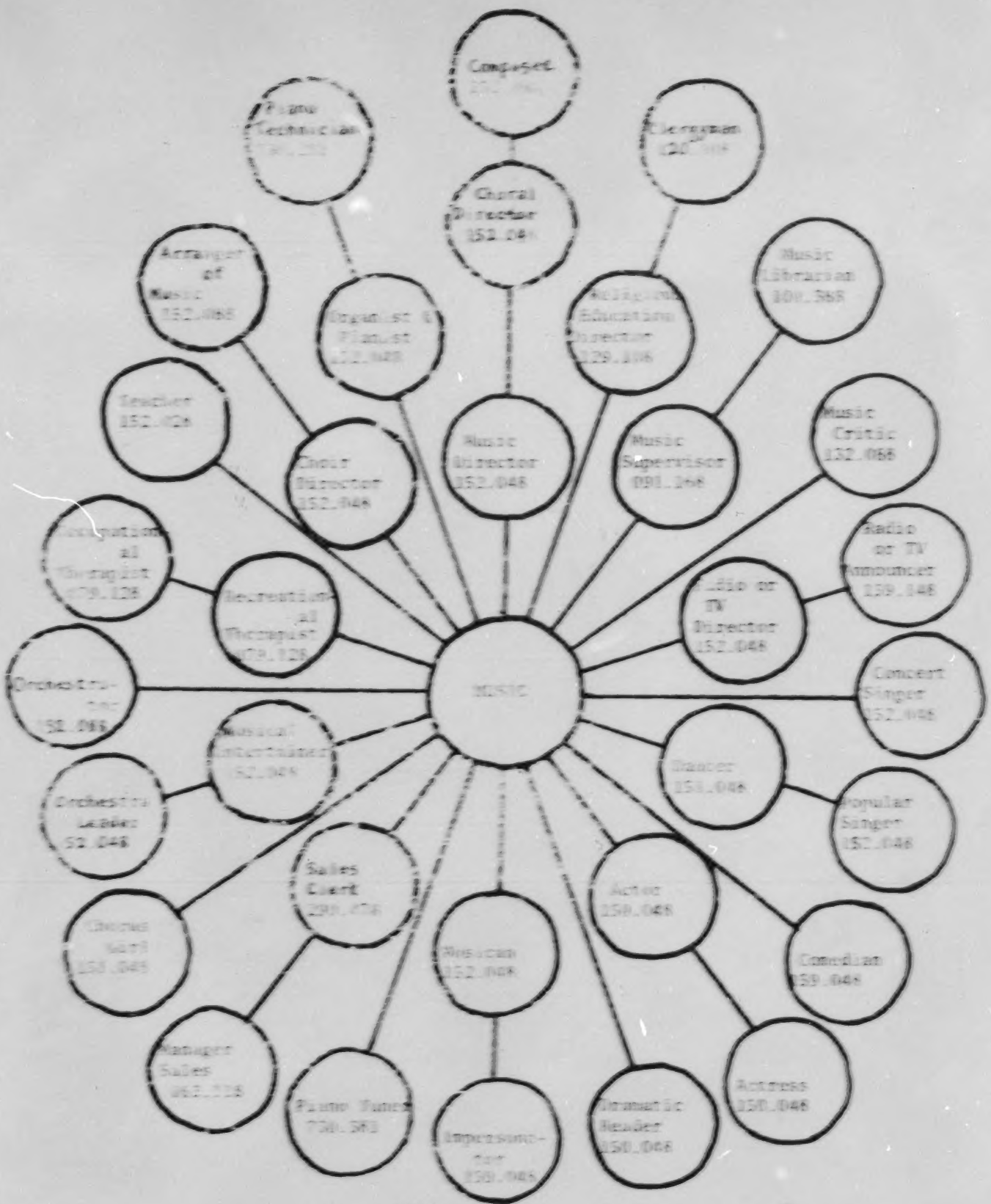
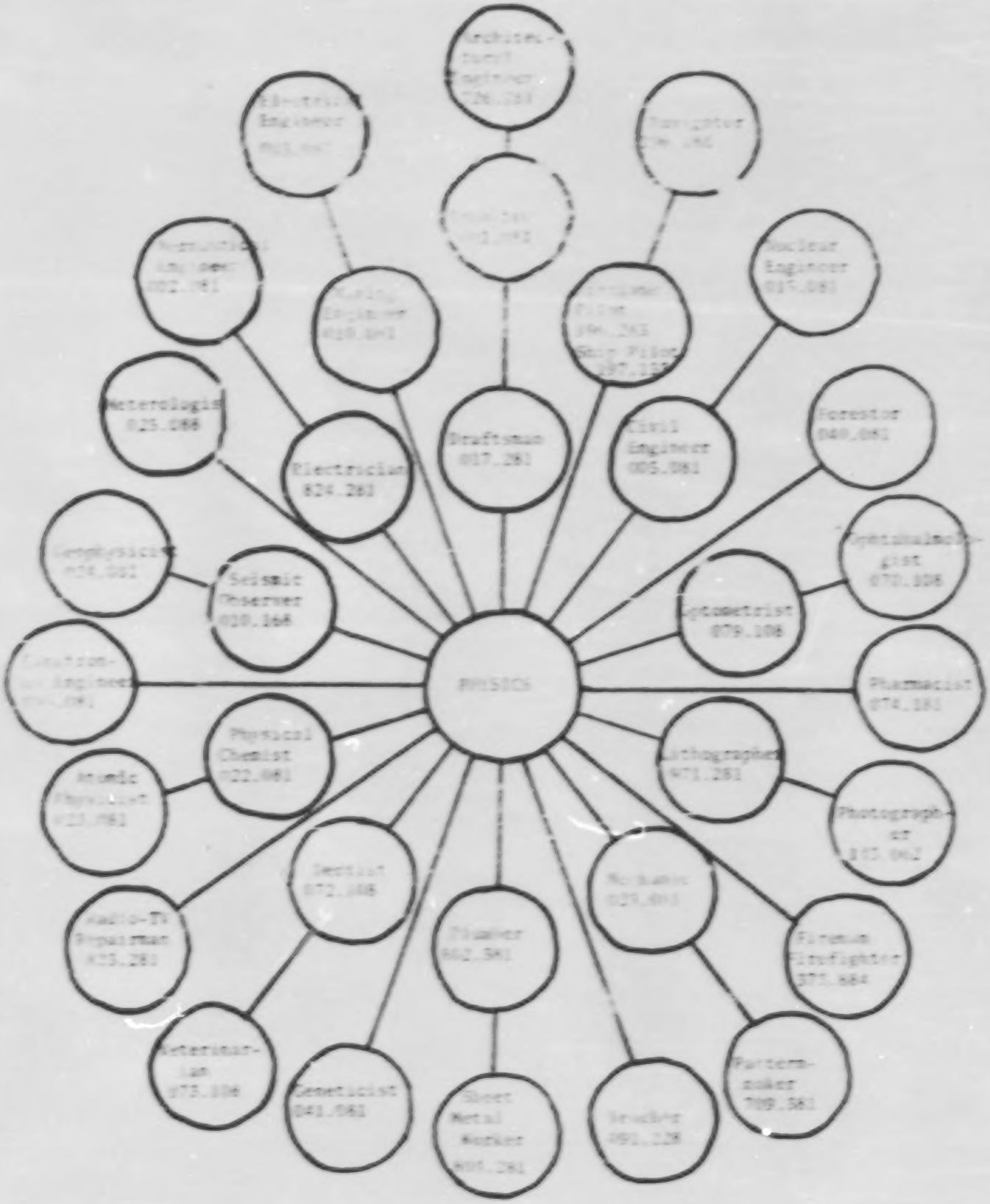
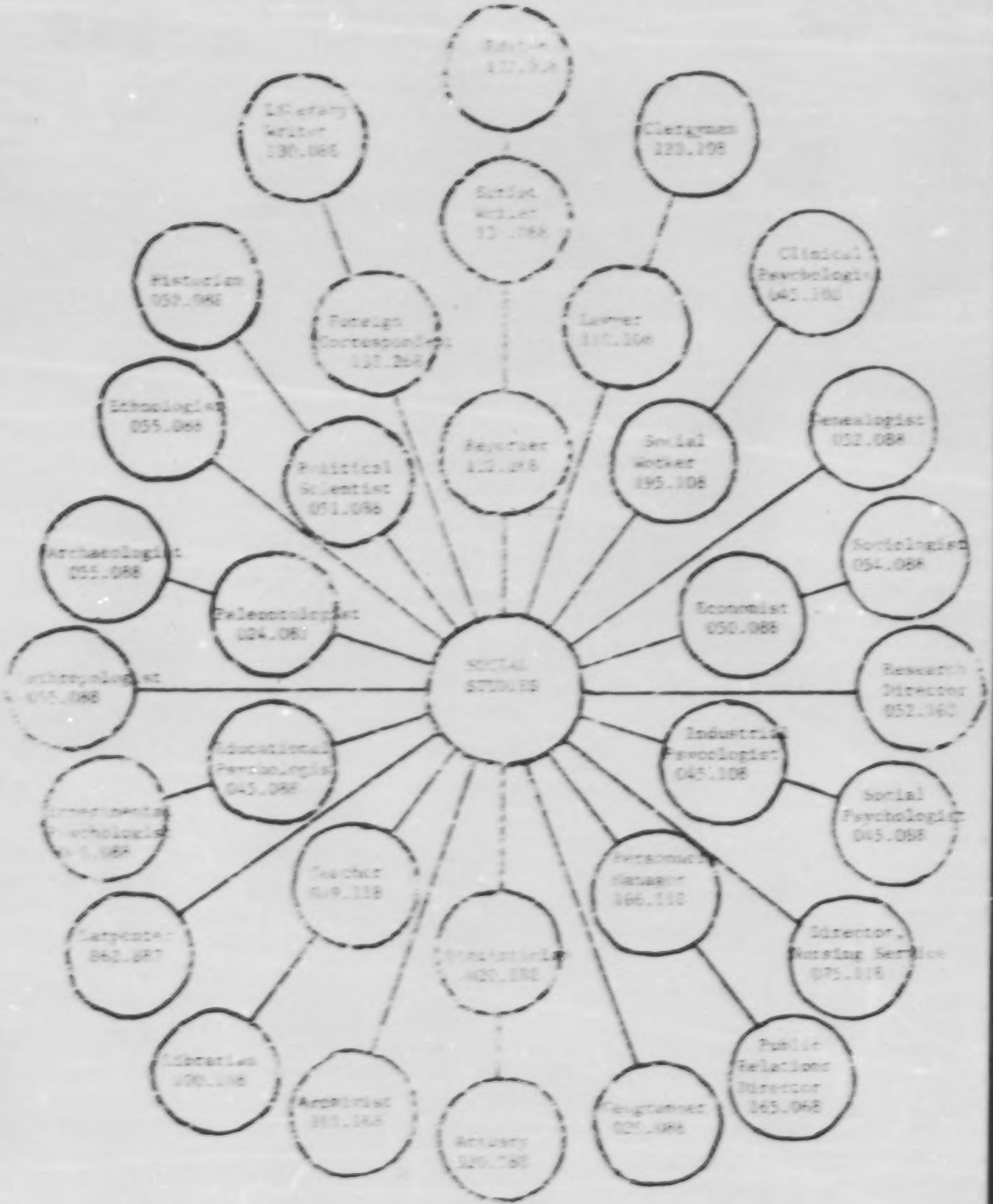
Electrician
824.281
Carpenter
860.281
Plumbers
862.381


MUSIC
Composer
Librarian
Choral Director 152.041
Piano Technician
Arranger of Music 152.081
Music Librarian 100.368
Organist & Pianist 152.041
Music Education Director 129.038
Teacher 152.029
Music Director 152.048
Music Supervisor 191.268
Music Critic 132.068
Choir Director 152.048
Occupational Therapist 079.128
Radio or TV Announcer 159.148
Recreational Therapist 079.128
Radio or TV Director 152.048
Orchestrator 152.048
Concert Singer 152.048
Musical Entertainer 152.048
Dancer 151.048
Orchestra Leader 152.048
Popular Singer 152.048
Sales Clerk 290.477
Actor 150.048
Chorus Girl 150.048
Musician 152.041
Comedian 159.048
Manager Sales 163.118
Actress 150.048
Piano Tuner 730.381
Dramatic Reader 150.048
Impersonator 159.048

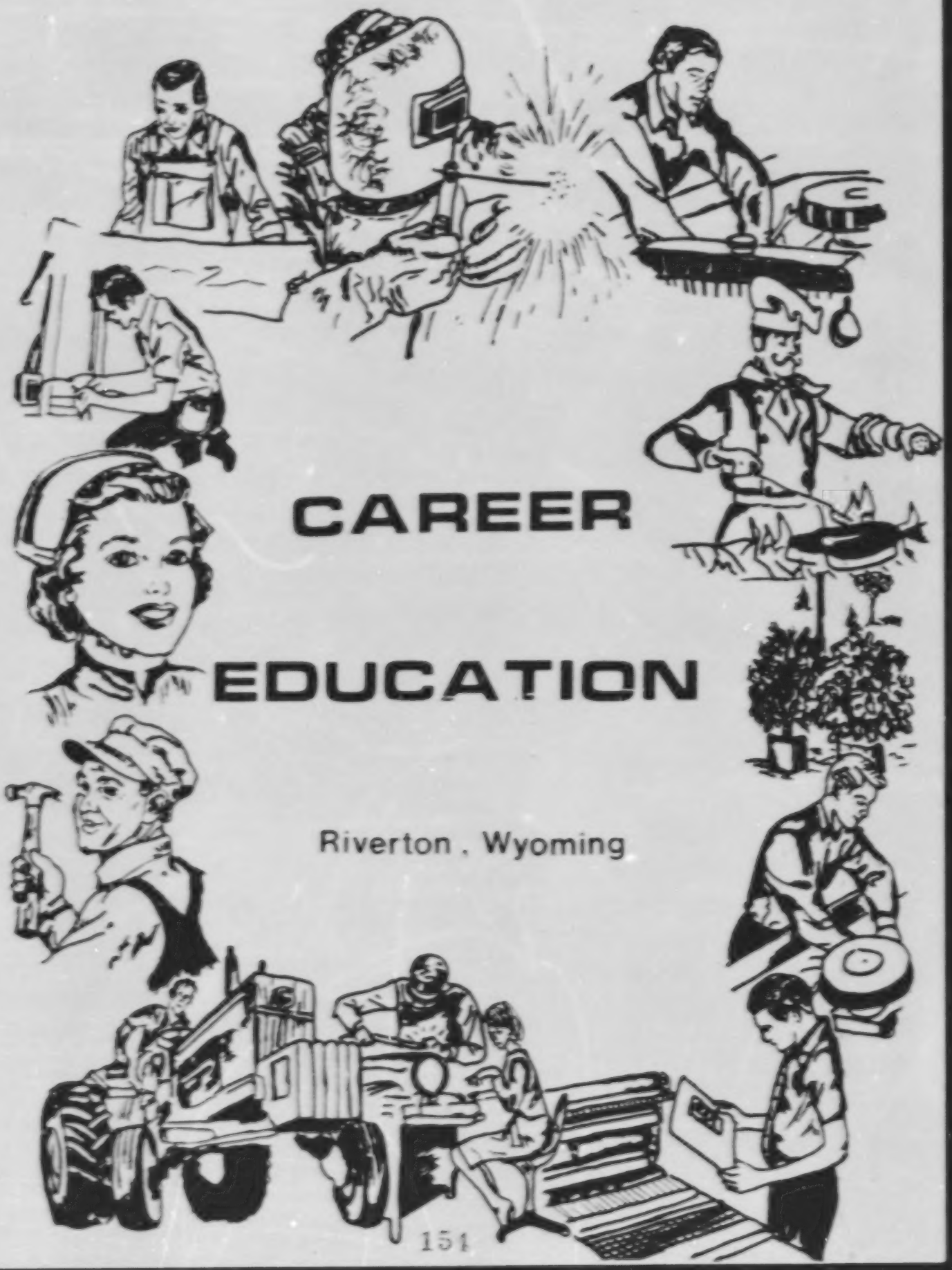

PHYSICS
Draftsman
017.281
Electrician
824.281
Seismic
Observer
010.168
Physical
Chemist
022.081
Geologist
024.061
Geneticist
041.061
Sheet
Metal
Worker
804.281
Engineer
005.061
Forester
040.061
Pharmacist
074.161
Photographer
143.062
Fireman
Firefighter
373.684
Patternmaker
709.361
Lithographer
971.281
Optometrist
079.108
Meteorologist
025.088
Nuclear
Engineer
015.061
Surveyor
018.168
Chemist
022.061
Dentist
072.108
Physicist
023.061
Radio-TV
Repairman
823.281
Veterinarian
073.108
Sculptor
001.128
Navigator
196.261

SOME OCCUPATIONS RELATED TO INTEREST AND ABILITY IN SOCIAL STUDIES



APPENDIX B

Career Education Booklet



CAREER EDUCATION

Riverton, Wyoming

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Wyoming's Model Project	14
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A Rationale for Pascal Students	45
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This booklet was prepared to better acquaint you with the Career Education programs in the Riverton Career Education Center.

ADMINISTRATION

James Moore	Superintendent of Schools
Neal Carroll	Assistant Superintendent of Schools
Glenn Burgess	Director, Career Education Center K-14 Exemplary Project
Keith Currey	Counselor - Coordinator Career Education Center

STATE DEPARTMENT OF EDUCATION

Paul Sizemore	Director, Career Education

The instructional staff at the Riverton Career Education Center has been certified by the Wyoming State Department of Public Instruction. Instructors are selected by their successful trade experience as well as by professional education or teaching experience.

FACULTY

Ray Berg	Small Engine Repair
Al Blacky	Business and Office Education
Larry Dowse	Building Trades
Les Fossey	Drafting and Welding
Bill Gilpin	Graphics
Fred Haas	Food Service
Rex Hayhurst	Auto Mechanics
Roy Reno	Agri-Business
Frank Stevens	D.O. + D.E.
	Auto Body Technology
	Drafting
	Allied Health Service
	Basic Electricity
	Horticulture (tentative)

MR. GLENN BURGESS
DIRECTOR
CAREER EDUCATION CENTER

MR. JAMES MOORE
SUPERINTENDENT OF SCHOOLS
RIVERTON

MR. NEAL CARROLL
ASST. SUPERINTENDENT

Students enrolled in the building trades class have the opportunity to build a house from the ground up. Experience in "rough" carpentry as well as finish work, analyze drawings making estimates, house wiring and plumbing. The program also stresses related information and skills, thus enhancing the student's knowledge and dexterity in the cabinet making and carpentry fields.

BUILDING TRADES

DRAFTING

Trade skills, techniques of service, disassembling, repairing, assembly, installing and adjusting is performed on late model automobiles.

Auto Mechanic students are able to use the latest in testing equipment, hand tools, power tools and repair equipment of the trade.

The Agri-business Curriculum is designed to provide the student with the various phases of business related to agriculture. Instruction will be given in both Business and Distribution as well as Technical Agriculture.

A chance to explore teaching at the elementary level is provided for students who enroll in Education Orientation. Special interest of students such as art, physical education, science and music allow the student to make significant contributions to elementary children.

EDUCATION ORIENTATION

BUSINESS OFFICE EDUCATION

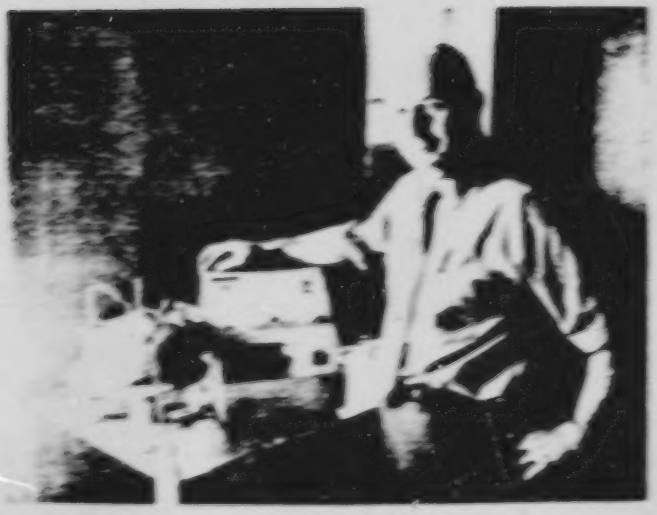
Students who successfully complete the course of instruction are prepared for job entry skills in receptionist, clerk, typist, file clerk, personal or general secretary. The most modern and innovative equipment is being used to allow students hands-on experience.

DO and DE

Classroom experience combined with occupational experience enables the students in DO and DE to prepare for actual entry in the field of marketing, merchandising and management.

SMALL ENGINE REPAIR

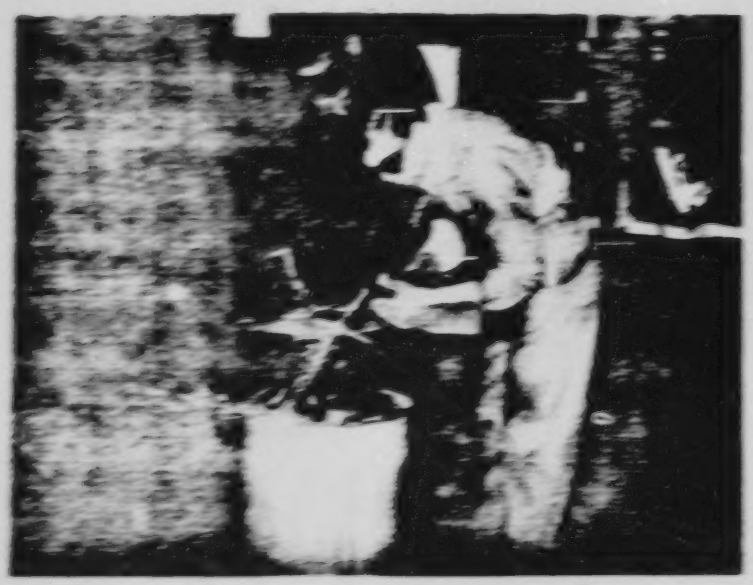
Theory along with hands on experience helps provide the training needed to learn what the small motor is all about. Employment opportunities in this field have increased as the use for small



GRAPHICS

Knowledge in various areas of graphics, such as [illegible] art, printing process and production of printed material, is acquired. Employment opportunities are varied in this vocation and give the student the background for a variety of [illegible].

[illegible] are available in Welding, as a part of Auto [illegible] or Auto Industries as a required class. Some [illegible] of construction in Gas Arc, Mig and Tig are [illegible] by the students.



WELDING

Debbie Smith and Linda Powell - Secretaries

Keith Curry - Computer Coordinator

Mary Clum - Secretary

Riverton Career Education Center

To: Serve Elementary - Junior High - High School - Post Secondary and Adult Education.

Introduction

Academic and vocational curricula are rapidly merging to become a single comprehensive career education program in many school districts throughout the nation. Accordingly, the career education center will be dedicated to serving the needs of the students and adults in School District #25 and to establish a curriculum base that will meet, in so far as is practical, present and projected needs of the state and surrounding area.

Educational Philosophy

"Career Education" has as its objective the preparation of the student for advanced training or entry into and progress within an occupation as evidenced by gainful employment.

A sound vocational-technical program is a vital component of a comprehensive career education program. It is a major factor in the growth, welfare, and economy of the national community. Vocational education is unique in that its frame of reference must be in occupational terms and dimensions. It constitutes a significant part of the "main stream" of general education and assumes a responsible role in providing "the most people with the most schooling" in such a way that they will be enabled to make a living as well as to make a life.

The Riverton Career Education Center is being developed in response to present and predicted needs of the community, state, and nation. It must become and remain always a dynamic institution serving a population in a world of rapid change and exotic occupations. It must be flexible in curriculum, instructional media, and student resources. It reflects the concept of "area planning" in the curricular and in the geographic sense. It must provide continuing community service as well as occupational education at the secondary level.

With the guidance and endorsement of the lay and advisory committees, the administration and staff, and with strong direction from the local school patrons the career education center is dedicated to meeting the challenge of new and involving dimensions in the world of work.

-10-

Objectives

The Riverton Career Education Center assumes a responsibility to meet the educational and training needs of the students and adults of School District #2) by offering a curriculum that will:

Junior High

1. Provide 9th grade students additional opportunity to explore a variety of career oriented programs.

2. Provide more realistic information concerning the students interests, aptitudes, and abilities in both the academic and vocational courses.

3. Relate the importance of the total curriculum (academic and vocational) to the world of work.

4. To provide for early curriculum planning so students may select courses which will be beneficial to their proposed career choice.

5. Provide realistic information concerning self which relates to intended career choice.

6. Provide for hands-on type of learning experience as well as classroom instruction.

High School

1. Provide for pre-employment training for students in the secondary school.

2. Develop skills and knowledge necessary for entry into and progress within an occupation for students.

3. Develop skills and knowledge which will enable a student to pursue additional training at the post-secondary level.

4. Provide for related classes that will afford supplementary skills or knowledge.

5. Provide a variety of exploratory courses for students in the secondary school.

6. Provide for open-entry, open-exit into course work.

7. Provide for individualized instruction and continuous progress.

8. Provide general adult and community service education (night classes).

WHAT IS CAREER EDUCATION?

Career Education is the term denoting the total effort by the educational agencies and communities in presenting organized career-oriented activities and experiences to all persons from nursery school through adulthood, and orients the entire educational plan into one, unified, career-based system.

The success of the total cooperative community-school effort is dependent on the quality and quantity of four major characteristics. Those being:

1. Career Education is designed to acquaint individuals with career opportunities and options.

   Presenting career information to students is the responsibility of the entire school staff. Unbiased and realistic career information should be integrated into all subject matter content offered individuals at all levels.

2. Career Education is designed to assist individuals in developing a realistic self-concept.

   Activities and/or experiences must be provided which will aid individuals in developing a realistic self-concept. How an individual perceives himself, how others perceive him, and what he perceives as an ideal self, often relates directly to expressed career interests. The comprehensiveness and accuracy of data possessed by the individual should lead to more rational decision making.

3. Career Education is designed to aid individuals in making career preferences and/or choices.

   Individuals should be extended the opportunity to explore career preferences to the depth desired. Coordination of school and community resources is necessary if individuals are to develop positive attitudes toward the world of work, and realistic images of persons in the work world.

4. Career Education provides the vehicle for the development of such skills and abilities as are needed so that the individual might achieve his career goals.

   Learning experiences should be structured to give the individual those skills and abilities as are needed so that he might achieve

his career preference with the flexibility to change career direction without academic penalty. Career education emphasizes an employable product.

The majority of school and staff resources should be directed toward:

1. Providing sequential and comprehensive training experiences to all individuals for the purpose of employment or further education.

2. Providing placement services as necessary for the individual to actualize his/her career goal.

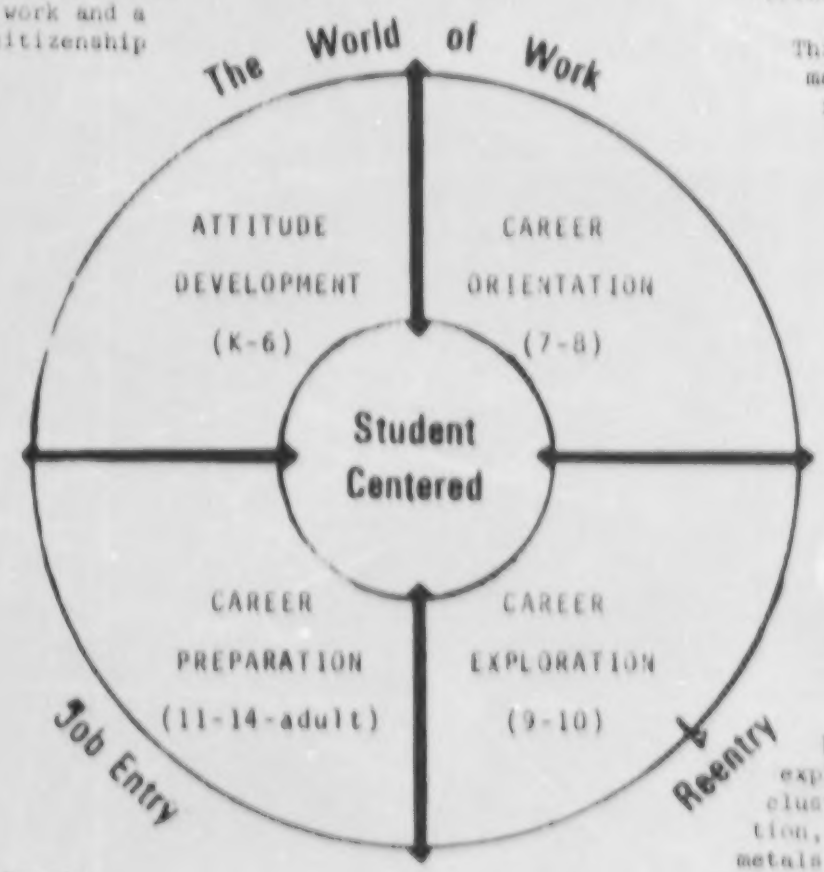
ATTITUDE DEVELOPMENT

Emphasis is placed upon development of ATTITUDES TOWARD THE WORLD OF WORK without changing the existing curriculum. Projects are intended to develop in ALL children a respect for ALL work and a motivation for productive citizenship in the world of work.

CAREER ORIENTATION

A CAREER ORIENTATION PROGRAM FOR ALL YOUTH is developed to provide them with an understanding about broad areas of our economy.

This program provides job information of various occupations in class, and by use of field trips and resource individuals.



CAREER PREPARATION

CAREER PREPARATION (SKILL) PROGRAMS will provide all students with a saleable skill. These programs are developed in the following clusters or "job families"

Building Trades
Metal Processing
Graphic Communications
Distributive Education
Electricity-Electronics
Office
Hospitality
Transportation Service and Repair
Agri-Business
Health
Family and Community Service Occupations

CAREER EXPLORATION

The CAREER EXPLORATION PROGRAM allows students to explore various occupational clusters through consumer education, homemaking, plastics, wood, metals, power mechanics, office machines, etc. This is a hands-on experience prior to skill training in a particular cluster.

HOW IT WORKS

Every child, through the public school system, will be prepared to enter and succeed in the World of Work. Some occupations require more education than others. Work is common to us all. Preparation is a function of our schools from kindergarten through the graduate school.

WHAT IT IS

Comprehensive Education prepares individuals in a sequential program for the world they live and work in. It involves all students. It eliminates the two-track system of college and non-college bound.

WHO ASSISTS IN CAREER DEVELOPMENT?

School Administrators
Guidance Counselors
Occupational subject area teachers
Basic subject area teachers
Co-op school-community coordinators
Job placement coordinators
State employment agency counselors
Parents
Youth activity advisors
Businessmen
All interested citizens

COOPERATIVE METHODOLOGY

This is a technique used in career preparation whereby students spend part of the day in class and part of the day on the job supervised by a teacher-coordinator and an employer cooperatively.

W.O.R.K.

Wyoming Occupational Resource Kits are annually prepared in the Career Information Center of the State Department of Education. This is one tool used for career information at the Junior High, Senior High and Community College levels.

PHILOSOPHY

Cooperative Education is designed to assist individuals in becoming self supporting, efficient, contributing members of our society by providing in-school instruction that is coordinated with on-the-job training in the occupational areas of their choice.

It is directed toward providing supervised occupation experiences that will enable the individual to acquire skills, abilities, understanding, work habits and attitudes.

The term "cooperative" indicates a strong working relationship between the school and the business community in preparing young people for careers.

BENEFITS

To the Employer

1. Involved in the type of training given by the school.
2. Cooperates in the selection of future employees.
3. Maintains an informed contact with the school.
4. Receives a steady source of trained employees.
5. Contributes a community service.

To the School

1. Utilizes facilities not available in school.
2. Provides training not available or practical in a school setting.
3. Encourages use of skills and knowledge of business leaders.
4. Enables teachers to keep in touch with employment picture and changes.

To the Student

1. Learns by doing
2. Learns by work
3. Learns to cooperate
4. Learns skills
5. Earns wages
6. Gains maturity

To the Community

1. Keeps students in the community.
2. Provides a close working relationship between school and business.
3. Provides for better understanding of students and school.

Agri-Business Occupations

Stations being sought in production areas such as ranch work, feed stores, machinery repair, grain elevators, and in related fields such as nurseries, green houses, landscaping, wildlife management, and outdoor recreation.

Business and Office Occupations

Stations being sought in any office or business using secretarial and/or clerical help.

Distributive Education

Stations being sought in marketing, merchandising, management, to include retailing, transportation, finance, and wholesaling.

Diversified Occupations

Stations are sought in any areas not covered by agri-business occupations, distributive education, food services, and business and office occupations. Any area where the student can receive training toward a job or career.

Food Services

Stations being sought in business dealing in food preparation. This could include hospitals, restaurants, drive-ins, rest homes, and schools, etc.

Central Wyoming College Cooperative Programs

Since this is a continuation of all the high school programs, stations are being sought in all areas of cooperative training. Stations involving management and mismanagement are also being sought.

School District #25 Cooperative Education Program

Student trainees are juniors and seniors with a wide range of interests and abilities. Some are prospective college students desiring knowledge and experience of a variety of occupations, while others are primarily interested in exploring occupations and training for a specific skill. Classes taken at school by these trainees are designed to directly or indirectly prepare the trainee for entry into a chosen occupation.

Central Wyoming College Cooperative Education Program

Trainees are enrolled in classes which are directly related to their occupational goals and which may be used to complete their degree. Some variations to this plan will be necessitated by those who have no such aspirations but desire immediate full-time employment.

Supposing the student is not satisfactory on the job---what then?

If the student is not satisfactory, the employer is free to release him. However, this should be done only after the situation has been carefully analyzed by the employer, the coordinator, the student himself, and thoroughly discussed by all concerned. Careful placement usually eliminates most cases of having to discharge a student employee.

Central Wyoming College Cooperative Education Program

This program is designed to provide vocational- technical education on a cooperative basis for college enrollees who feel they can benefit. Priority is given to those individuals who do not aspire to the baccalaureate degree. Every effort is made to place students in positions commensurate with their abilities and which correlate with their stated occupational objective.

Programs Offered

Accounting
Business Management & Merchandising
Secretarial Science
Computer Programming Technology
Drafting Technology
Electronics
Law Enforcement
Radio-Television Broadcasting
Horsemanship
Horse training
Farrier
Packer, Guide & Outfitter

Related Class

Students choosing the cooperative program will continue with a series of two hour courses taught by the teacher-coordinator. These courses are designed to give the student an opportunity to learn about and to explore the world of work; how to search and apply for a job; human relations, employee-employer relations; personal finance;work habits; community human relations; and leadership development.

What is the Coordinator?

The coordinator is a person with both professional education training and work experience as a wage earner. He coordinates the classroom instruction with the trainee (student), the school, and the training station. He aids the trainee supervisor in planning, training and following of students, and their on-the-job phase of the program.

What is a Trainee Supervisor?

He is the employer or the person assigned to supervise the student.(trainee) He works with the coordinator in planning the training program, evaluation the student's progress, and recommending changes. The employer pays the student for his work on the job.

CONTACT...

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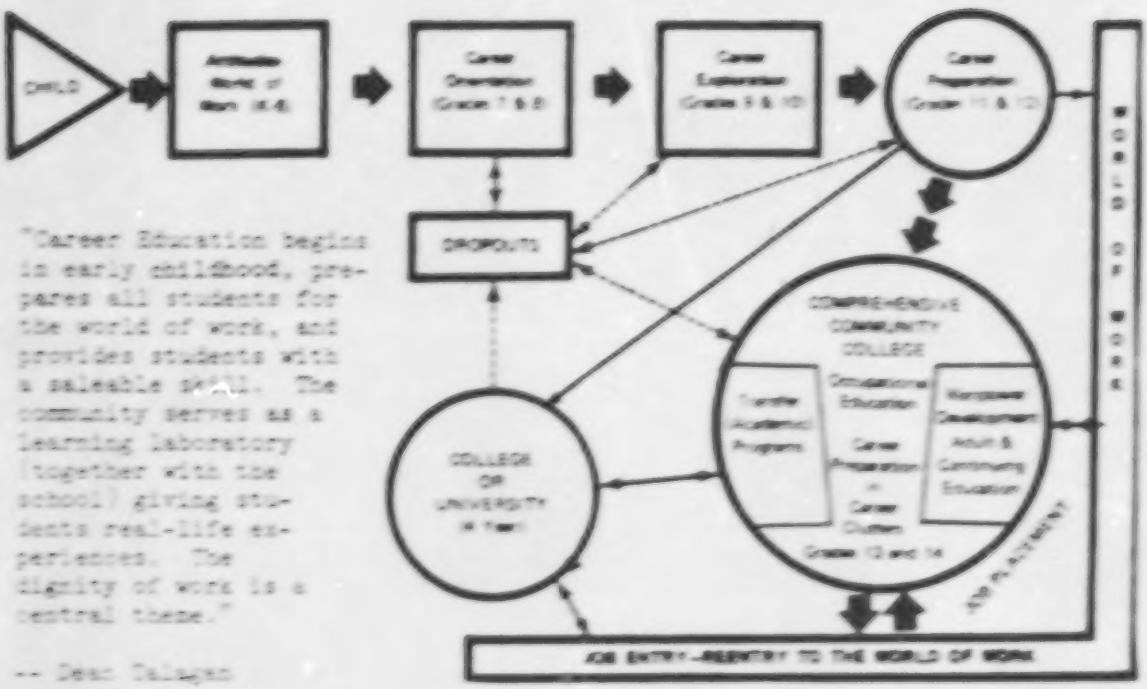
Phone - 856-9291

THE RIVERTON PROJECT

School District #25 in Fremont County, Wyoming has initiated a comprehensive program for career education. Beginning in kindergarten, it blends academic and vocational education into a single approach to the world of work available to some 3,300 students.

Started in 1970 with federal, state and local funds, the program includes development of curriculum, instructional materials, and inservice training for individualized teaching procedures.

THE WYOMING MODEL



"Career Education begins in early childhood, prepares all students for the world of work, and provides students with a saleable skill. The community serves as a learning laboratory (together with the school) giving students real-life experiences. The dignity of work is a central theme."

-- Dean Tallman

PROGRAM COMPONENTS

Pupils in kindergarten through sixth grade are learning attitudes toward the world of work, using materials developed within the existing curriculum.

Trips to local enterprises and speakers from the professional and business community open their eyes to the many ways that adults earn a living.

Junior High students learn about job requirements and preparation in 15 different occupational clusters. Films, guests from the community, and field trips give them ideas. Wyoming Occupational Resource Kits (W.O.R.K.)

have been prepared, giving information on over 400 jobs; the material can be read directly from the microfilm or copied and shared with parents.

Students in grades 11 through 14 can work part-time in local firms (cooperative education) to develop job-entry skills. Counselors help them match their abilities to local or regional opportunities, and offer occupational interest and ability tests. State employment counselors help school counselors to place students in jobs or in two or four year college programs. The goal is to assure that every student, when he leaves school, has at least one saleable skill.

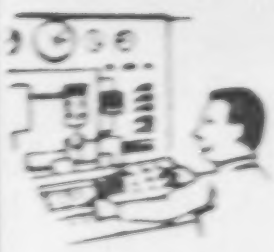
THE OCCUPATIONAL CLUSTERS

The eleven clusters in the Wyoming occupational model include electricity-electronics, office work, graphic communication, metal processing, transportation service and repair, building trades, hospitality, agri-business, health, family and community service, and distributive occupations. The clusters are arranged in steps, so that with continuing education an individual can advance from one skill to another throughout his working life.

As an example, in the electrical occupations cluster, a high school graduate could be sufficiently skilled to be employed by an appliance repairman. With further education, perhaps while working part-time, he could become an electrician. Later he might decide to become an electrical engineer. The wide idea of skilled-based and sub-skilled broad students between occupations when careers are seen in this way as ladders and clusters.

CRUCIAL FACTORS OF
THE WYOMING PROJECT

Comprehensive design in an established K-14 system



Individualized instruction

Continuous progress with Learning Activity Packages for each pupil

Interdisciplinary methods

Use of many kinds of materials

Cooperative partnership among School District # 25, Central Wyoming College and the State Department of Education

School District #20 Cooperative Education

The High School Cooperative Education Program provides three types of work experience - - exploratory, general, and vocational. Included is a related class designed to help the student learn an occupation more rapidly.

Exploratory

Exploratory work experience is essentially a vocational guidance program. An enrolled pupil is provided an opportunity to both observe and participate in a variety of activities. The pupil receives no pay, but does earn school credit. Students in this phase of the program must be enrolled by the District Office in Work Experience Cooperative Education to insure the youth are covered by the School District Workmen's Compensation Policy.

General

The controlling purpose of general work experience education is to provide high school youth maturing experiences through supervised part-time employment that will help them to become productive and responsible individuals. The part-time work done by the pupil need not be related to his occupational goal. Pay and school credit are both received for participation in General Work Experience Cooperative Education Program.

Vocational

In vocational work experience education programs, the employment of a pupil is specifically within the field he has indicated as being his occupational goal. Courses taken at school are directly or indirectly preparing the youth for entry into the chosen field of work. Employment that serves the function of practical laboratory experience for reinforcing the in-school occupational education. Pupils enrolled in Vocational Work Experience Cooperative Education receive both pay and school credit for their endeavors.

Related Class

In the related class the student will study and participate in activities that pertain to his specific job station. The employer or supervising personnel will help identify weaknesses in the student's performance, which could be improved by classroom activities. The related class will also be used to study such topics as, job choices and opportunities, applying for a job, personal data sheets, interviews, self appraisal, consumer economics, insurance, the world of work, and sources of occupational education.

The following programs are also being offered to Riverton High School students to prepare them for job placement. Students will enroll in programs pertaining to their occupational goals and will be placed in related work stations within the community.

CURRICULUM DEVELOPMENT

For: Auto Mechanics, Building Trades, Cooperative Education, Graphics-Shorthand, and General Business

1. Instructional Materials

1.1 Learning Activity Packages
1.2 Local and current textbooks
1.3 Other related written materials
1.4 Films
1.5 Film strips and tapes
1.6 Loop films and tapes
1.7 V.T.R.
1.8 All the necessary equipment for hands-on learning skills
1.9 Local downtown stations for student experience

2. Grading System - Same report card

2.1 Will be grades A-B-C-I
2.2 No failures
2.2.1 Recycle students who receive a grade of (I), call Occupational Counselor in with teacher involved, treat each case separately.
2.3 The student will receive credit for the work he completes successfully.
2.4 A unit could mean a point system of 20 points = 1 unit.
2.5 20 points = 1 unit = at least 40 minutes per day, 5 days per week, 36 weeks per year or at least 120 clock hours.

3. Continuous Progress

3.1 The concept will be set up on the Ladder System with the right to move horizontally (Lattice) to accommodate the needs of the student.
3.2 The ladder could be developed into units. A student could move at his own speed.
3.3 The above average student could complete (example) 2 years of instruction in 1½ years.
3.4 If the student should phase out of the program before the semester was over, he would get credit for what he has accomplished to date.
3.4.1 Credit for each behavioral objective be passed according to the standards determined by the instructor.
3.4.2 (Example) If he phased out in the seventh week of the semester, he would receive 7 tenths of a credit for participating in a 2-hour block each day.

-2-

3.4.3 If the person decided to return to the program, he or she could begin where they left off at 7 tenths of a credit provided they could pass performance tests that verified they still acquired satisfactory knowledge of unit 1-7.

3.4.4 If this same person applied for a job in a related area, the person conducting the interview could contact the Occupational Counselor as to what behavioral objective he passed in good standing, thus making it possible for him to sell his job entry skills.

4. Individualized Instruction

4.1 Performance Objectives

4.1.1 Probably the best way to begin an individualized instruction program is by writing instructional objectives expressed in terms of observable student behavior.

4.2 Conditions of Performance

4.2.1 A well written statement of desired performance should say what it is the student who has mastered the objective will be able to do.

4.2.2 It should also say under what conditions the student will be able to do this.

4.3 Level of Performance

4.3.1 A well written statement of performance will establish when appropriate, an acceptable minimum standard of achievement.

4.4 Instructional Materials for Objectives

4.4.1 An instructional objective would be stated in terms that permit the use of various procedures.

4.5 Measuring Accomplishment

4.5.1 A well written instructional objective will suggest how its accomplishment can be measured.

4.5.1.1 A well written objective specifies under what conditions, and to what extent a certain kind of student performance can be expected to take place.

4.6 Format for Developing Instructional Objectives

4.6.1 Content identification

4.6.2 Purpose

4.6.3 Criterion performance

4.6.4 Sample test situation

4.6.5 Taxonomy category

4.6.6 Resources

BIBLIOGRAPHY

A Committee of College and University Examiners. Taxonomy of Educational Objectives. David McKay Company, Inc., New York, 1956.

Hillman, Maurice and Bough, Joseph. Continuous-Progress Education. Science Research Associates, Inc., Palo Alto, California, 1971.

Krathwohl, David R. Bloom, Benjamin S., and Masia, Bertram B. Taxonomy of Educational Objectives. David McKay Company, Inc. New York, 1964.

Mager, Robert F. and Beach, Kenneth M., Jr. Developing Vocational Instruction. Fearon Publisher, Palo Alto, California, 1967

PROGRAM DETERMINATION

All programs within the curricula of the proposed career education center are subject to the initial approval of the Superintendent, Assistant Superintendent of Instruction, and the Board of Trustees of School District #25 of which the career center is a unit.

Appropriate personnel from the local administration, instructional staff, and the various advisory committees are involved in all planning and evaluative stages. Approval of the State Board of Education is mandatory prior to implementation of a proposed curriculum.

The secondary and post-secondary curriculum of the career education center is developed to prepare students with special needs for job training to enter into and maintain successful performance within an occupation or to provide the student with upgrading or refresher training necessary to his occupation. In addition, in the adult and continuing education division a variety of special programs and subject offerings constitutes a community service and general interest opportunity for education for all.

Curriculum development in the secondary and post-secondary programs follows a standard procedure, including but not limited to the following:

1. Identification of specific needs for trainees and/or training.

2. Establishment and use of an advisory committee equally representative of labor and management within the occupational field, and including lay members representing the community and related areas of interest. All meetings are formally structured and minutes are kept.

3. Documentation of need for the training program includes the following.

   a. scope or occupational cluster
   b. identification of special need population
   c. survey of job opportunities
   d. identification of potential students and their general needs
   e. analysis of the occupational cluster to determine its potential demand
   f. analysis of existing programs offering the same training
   g. analysis of existing curricula
   h. evaluation of facilities, cost, and other factors affecting the delivery of the program

4. Analysis of tasks, knowledge, and understandings necessary to successful job performance and translation of these into suitable areas of instruction.

5. Analysis of performance levels adequate for success in the occupation with these levels measured in task rather than subject proficiencies.

6. Identification of equipment, instructional materials, and facilities necessary for training to meet job performance levels.

7. Establishment of criteria for selection of instructors and identification of candidates to assure successful instruction.

8. Establishment of criteria for selection of students to assure their needs are met in a likelihood of success in the occupation.

9. Development of a syllabus based upon need identification, subject identification, facilities, and methods used for instruction, sequential relationships of task skills (flow chart) knowledge and understanding, criteria for approval from all agencies concerned, employment outlook, and other pertinent consideration.

10. Preparation of proposals for the local board and State Department of Education, including the above information and a categorical budget.

11. Development of course of study based on occupational analysis and student needs. All course of study include the following:

    a. job performance levels
    b. task performed on the job
    c. measurement of performance levels (behavioral objectives)
    d. instructional materials and methods
    e. contact hour per unit or day
    f. flow chart indicating instructional sequence

12. Quarterly and annual reports, evaluation, revision of each course of study.

13. Documentation of curriculum.

The lay advisory committees are made up of persons from labor and management. The latter should include persons who function on the mid-management level. This group is concerned with answering the following questions:

1. To what extent does the occupational field offer employment opportunities to those who may be trained.

2. To what extent is the occupation sufficiently stable to warrant an expenditure of public funds for a training program.

3. What will be the affect of scientific research and invention on the field of employment.

4. Will a training program in this field be unreasonably expensive for the tax payers to support because of technological changes or early obsolescence of physical facilities.

5. To what extent does the nature of organization with the occupation assure cooperation of the industry with the school program.

6. To what extent will community wealth or welfare be increased through the proposed program.

7. Will the training benefits to the proposed program be general in nature and serve a large area of the economy.

8. Are there any legal conditions which might make the operation of the programs difficult.

9. Would the proposed training programs duplicate existing programs offered by other schools.

10. What will be the cost of the program.

11. Will any financial assistance be available from outside the local school district.

12. Is it possible to recruit an effective instructor or instructors for such a program.

13. Can the proper physical facilities be provided.

14. What is the priority of this program.

INSTRUCTION BY OBJECTIVES

IMPLEMENTATION

SEQUENCE

Riverton Department of Career, Vocational,
and Technical Education

Riverton, Wyoming

F O R W A R D

Instruction by Objectives is a systematic process which allows a department (Career Education) to:

1. Plan its course of action (I.T.O. and B.O.).
2. Assist individuals with contributing to that course and its goals (activities or tasks set by instructor and advisory committee).
3. Determine progress toward a mutually set goal (evaluation).

It provides a mechanism whereby a department (Career Education) may concentrate its efforts upon priorities which have been mutually determined, set, and accepted by instructors, administrators, and committee advisory boards. This process allows every student in the program to know what is expected of him, where he can look for guidance and assistance, and who he is expected to work with in order to achieve his set goal. Because the system provides goals and is task oriented, disruption due to both outside and inside changes is kept to a minimum.

Instruction by Objectives provides for both instructional and individual accountability. The established goals and objectives provide for tasks or activities which lead to the overall purpose of the department (Instructional Accountability). The instructional objectives provides each student with a guideline to follow, plus gives a stated, measurable goal which the department holds him accountable for (Individual Accountability). In order to be effective, it is essential that the dual process of instructional and individual accountability be maintained at all times. To ignore either of these important areas of responsibility will decrease the effectiveness of the process.

While detailed procedures and methods are outlined, it is essential that each instructional program adapt the system to its own unique needs. Flexibility in development of curriculum, as well as its operation, is vital to effectiveness. Each instructional area must determine its own course of action, must set its own purpose, and must agree upon its own objectives.

The Riverton Career and Vocational
Education Department

INSTRUCTION BY OBJECTIVES

I N T R O D U C T I O N

Instruction by Objectives is a system which enables an instructional area to plan in advance what that instructional program desires to accomplish within a specified time. In addition, it is a system whereby instructors assist students in planning their lessons, meeting their objectives, reviewing their performance so that they may achieve optimum learning results, and in so doing, assist in the accomplishment of the overall goals and objectives of the instructional programs at the Career Education Center.

The purpose of this guideline is threefold. First, it will provide a method to develop the instructional goals and objectives. Second, it will provide a method to develop personal instructional functions and performance objectives for individual accountability, in the process of achieving the overall goals and objectives of the vocational programs. Third, this guideline will provide for the establishment of performance evaluation in order to determine the success or failure in achieving the desired outcomes of the instructional programs.

The Instruction by Objectives is of particular value to instructing students. The instructor will find that it assists him in planning, organizing, and directing instructional programs. The system will also provide better understanding of the students' problems and should strengthen the instructor-student relationship. Finally, the instructor will find the system valuable for assuring the optimum utilization of instructional materials, as well as enabling the student self-direction in achieving the goals and objectives of the career and vocational programs.

GUIDE TO DEVELOPING INSTRUCTIONAL GOALS AND OBJECTIVES

I N T R O D U C T I O N

In the development of the instructional goals and objectives, the most important and primary factor is planning. Planning by definition is the rational determination of where you are, where you want to go, and how you are going to get there. Thus, the "where you want to go" becomes the expected terminal outcome, and the "how you are going to get there" becomes formative and summative activities. However, before you can decide where you want to go, it is necessary to determine where you are, so that you can develop goals and achievable objectives for the instructional programs.

Once the instructional goals and objectives have been developed, validated, and approved the instructional program becomes committed to the attainment of these objectives, in addition to being held accountable for producing the results stated within. At this point, there is little or no individual accountability. This aspect will be developed in Procedure II through the discussion and development of instructional program functions and performance objectives as they relate to the instructional goals and objectives.

NOTE

Sequence to be continued with Procedures:

I. (Job Descriptions, Task Analysis Development, Based on D.O.T.s and validation by Advisory Committee)

II. (Major and Minor Expected Terminal Outcome, Summative and Formative Activities and Performance Objectives)

III. (Guide to Establishing Performance Evaluations)

PLAN AND PROGRESS CHART FOR CURRICULUM DEVELOPMENT

Agriculture 01.0000

This chart represents a plan now in operation for developing curriculum guides for vocational education programs. "x" marks indicate the progress to September 1971 "✓" Projected Activities for FY 74	Task Analysis	Advisory Committee	Write Objectives	Instructional Learning Units	Activity Identification	Instructional Instruction Packet	Unit Tests	Evaluation	Equipment & Supplies	Resource Materials	Orientation Tests
(Horticulture)											
Nurseryman											
Flower Grower											
Laborer, Nursery											
Nursery Worker											
Greenskeeper											
Landscape Gardener											
Park Caretaker											
Grounds Keeper											

[redacted]

[redacted]

[redacted]

- Auto Mechanics I & II

This course is intended to provide a thorough knowledge in the areas of ignition, carburetion, brakes, transmissions, clutches, differentials and other parts of the car, as well as brake adjustments, carburetor and engine tune-up. The shop will offer instruction in usage of the modern testing equipment used in auto shops.

- Building Trades

This pre-apprenticeship program will include most of the basics in building trades, including masonry, and concrete work so the individual could be prepared to enter an apprenticeship program. In addition, background knowledge in carpentry, basic electricity, plumbing, heating and painting to facilitate the students working cooperatively with other building trade workers in producing a total structure will be covered. Emphasis will be placed on forming favorable attitudes for employment, such as pride in workmanship, dependability, honesty and desire in one or more trades.

- Diversified Occupational Education

The program is directed toward providing supervised occupational experiences that will enable the individual to acquire skills, abilities, understanding, work habits and attitudes.

The program is a strong working relationship between the school and the business community in preparing young people for careers.

The high school Diversified Occupational Vocational Program provides three types of work experience - exploratory, general and vocational. Included is a related class designed to help the student learn an occupation more rapidly.

- Technical Drafting

The draftsman prepares clear, complete and accurate drawings, from rough or detailed sketches or other programs by engineers, architects, and designers to be used for engineering or manufacturing purposes, according to specific instructions. He utilizes knowledge of various materials, engineering practices, mathematics, building materials and other technical sciences to complete the drawings.

- Welding

A term used to describe numerous methods of joining metals. The objective of this program is to develop individual skills and techniques through actual practice which is directed toward qualifications and possible certification of the individual student. The student will learn to fabricate, repair metals using arc and acetylene welding equipment. The student will become familiar with several sources of heat and various methods of forming them for use in welding.

- Agri-Business

The Productive Agriculture Curriculum is designed to give the student more technical training in the various aspects of agriculture so he can operate the farm or ranch more efficiently or work as a technician in an agricultural related business.

Some of the areas covered are mechanics, welding, electricity, construction, animal science, agronomy, management, horticulture and turf-building.

- Graphic Communications

The Graphic Communications Program will include the following basic areas I & II.

I. Commercial Art

This area is designed to give the student a working knowledge in the following areas of commercial art.

a. Design
b. Composition & Layout
c. Lettering
d. Studio Techniques
e. Advertising
f. Art Illustration

II. Printing Process

We offer work in the following areas.

a. Hand Setting - students will gain a knowledge of letter press.
b. Press - students will gain a knowledge of offset printing.
c. Darkroom - students will gain a knowledge of camera &
d. Stripping & Photography - students will be instructed in [illegible]

e. Photography - Students will become knowledgeable with various cameras, developing, enlarging, reducing and printing.

III. Production of Printed Materials

The students will gain knowledge and skill in the total process involved in printing - this area will include the following:

a. Layout
b. Platemaking
c. Printing
d. Collating
e. Folding
f. Binding

* Business and Office Education

The curriculum for this course has not been determined. In the near future the Assistant Superintendent of Instruction, the Director of Career Education, the Principal of the High School, the Business Education Department and the Instructor of this course will research to determine what will be included in the curriculum. Successful completion of the course will prepare the student for a job entry skill. Possible employment opportunities would include: receptionist, clerk-typist, file clerk, personal or general secretary, bookkeeper.

* Allied Health Service

The curriculum for this course has yet to be determined. This program will also be researched by the administration to determine the program of instruction. Possible employment opportunities would be in hospitals, nursing homes, doctor's offices, dental clinics and public health agencies.

* Auto Body Repair

This course is designed to provide knowledge on the technical information and procedures related to automobile collision damage repair. Course areas covered will be body and frame measurement, collision damage analysis, body straightening, body electrical systems, body hardware service and adjustment refinishing with acrylic and enamel paints, glass replacement, upholstery, trim repair, wheel alignment and welding.

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* Small Engine Repair

The course is designed to give the student the training needed to learn in detail the principle and characteristics of the internal combustion engine. The two-stroke and four-stroke cycle engines will be covered to include: ignition, carburetion, governors, compression, starters, lubrication, pistons, rings and rods, crankshaft and cam gears, shop safety and hand tools.

* Graphic Arts (Exploratory)

I. Commercial Art: An investigation of the following areas: design, advertising, layout, magazine illustration, lettering, photography, matt making, and keylining.

II. Graphic Printing Process: An investigation into the four major areas of printing magazines, newspapers, and other printed materials.

III. Off-Set Lithography: An investigation into the area of off-set lithography which will include layout, platemaking, printing, binding and collating of printed materials.

* Mechanical Drawing (Exploratory)

To form a basic understanding in the following areas of Drafting:

a. Reading Dimensions
b. Free-Hand Drawings
c. Using a Scale
d. Isometric Drawings
e. Orthographic Projection
f. Blueprint Reading

* Horticulture (Preparatory and Exploratory)

This course will allow the student the opportunity to acquire and develop the necessary knowledge, skills, and techniques to acquire a job entry skill. The student will enroll in the exploratory program to determine his or her interest in the field of horticulture. It will also allow the student to phase into the preparatory course and pursue the study of horticulture, so that the students will acquire the necessary knowledge, skills and techniques to have a job entry skill.

OCCUPATIONAL EDUCATION

COURSE DESCRIPTIONS

RIVERTON JUNIOR HIGH

Exploratory Welding

This course will provide a basic understanding of weldable metals, shielded metal arc welding machines, gas shielded arc welding machines, and oxyacetylene welding equipment. Emphasis will be placed upon hands-on experience in the safe use of welding equipment and supplies.

Exploratory Drafting

Designed to provide a basic understanding in the areas of reading dimensions, use of drafting instruments, orthographic projection and blueprint reading. Development of these skills will be enhanced in Mechanical Drawing I.

Basic Electricity and Electronics (Exploratory)

Basic principles of electrical circuits and electrical testing procedures will be covered. Electronics will be explored by investigating the action of transistors with mounted components which plug into a circuit panel of solderless connectors.

Horticulture (Exploratory)

Designed especially for those students who have an interest in the basic horticulture components consisting of basic gardening, farmstead and home improvement.

Graphic Communication (Exploratory)

This course will cover commercial art, major printing process, offset press operation, and bindery work.

Small Engine (Exploratory)

This course is designed to allow students to explore the principle and characteristics of the internal combustion engine. The two-stroke and four-stroke cycle engine will be used to provide for hands-on instruction.

A STATEMENT ON

ADVISORY COMMITTEES

There are members on the following advisory committee for Riverton High School in these fields:

Building Trades

Welding

Cosmetology

Agri-business

Auto Mechanics

Body and Fender

Business and Office Education

Food Service

Graphic Communications

Drafting

Diversified Occupations

Distributive Education

An example which applies to all fields:

The administrative authority for the Building Trades Program is vested in the local Board of Education. The primary function of the local Advisory Committee is to advise and counsel the teacher-instructor in planning, implementing, and maintaining a Building Trades Program. Keep in mind that the following information represents suggestive criteria and should be considered in view of your specific situation.

A. Functions of an Advisory Committee

1. To provide important communication between the school and community.

2. To review the objectives of the local program.

3. To aid in a continuous review of the content and organization of the instructional program in keeping with the occupational needs of the community.

4. To assist in locating training stations for Building Trades students.

5. To suggest criteria for selection of students.

6. To assist with a continuous appraisal of occupational opportunities in the community and elsewhere through surveys and research.

7. To provide resource personnel for related classroom instruction.

8. To assist with follow-up of students.

B. Advisory Committee members responsibilities

1. Become knowledgeable of the Building Trades Program.
2. Recognize his role as being advisory.
3. Assist in securing information.
4. Provide counsel and advise.
5. Keep business and industrial complex informed.

RIVERTON HIGH SCHOOL

BUILDING TRADES EDUCATION PROGRAM

The Building Trades Program is designed to assist individuals in eventually becoming self-supporting, efficient, contributing members of our society by providing in-school instruction that is coordinated with on-the-job training.

It is directed toward providing supervised occupational experiences that will enable the individual to acquire skills, abilities, understanding, work habits, and attitudes.

The purpose of the program is to provide on-the-job work experience related to the student's course of study and chosen occupation.

The goals and objective of the Building Trades Education Program are as follows:

GOALS

Students enrolled in work experience education will:

1. Recognize that the process and content of the school's curriculum is relevant to career requirements and responsibilities.(relevancy)

2. Appreciate the importance of work to personal fulfillment and growing independence and maturity. (self-development)

3. Analyze career opportunities and their requirements and compare these to personal potential and expectations. (self-evaluation)

4. Identify with, and participate in, adult roles and responsibilities in the world of work. (acculturation)

The Building Trades Program will involve students in trade and industrial areas.

Student

1. Provides an opportunity for the student to gain valuable and practical experience prior to graduation.

2. Makes school studies more meaningful and stimulating.

3. Provides a realistic situation for the development of good working and safety habits, attitudes, thrift, responsibility, initiative, and ability to work harmoniously with others.

4. Provides the student with first hand appraisal of his capabilities, interests, and preferences.

5. Helps bridge the gap between school and the working world.

6. Provides an opportunity for personal development.

7. Provides a learning situation whereby the student learner is able to improve upon the tangible or marketable skills learned in school.

8. Opportunity to complete school and receive a reguler diploma.

9. Opportunity to make transition from school to employment through an organized plan of classroom and on-the-job training under the direction and supervision of a qualified teacher-instructor.

10. Ability to make an earlier, more intelligent choice of his career.

11. Opportunity to learn first hand the importance of human relations in the world of work.

Employer

1. Provides a source of better-trained employees.

2. Provides a source of selected and motivated employees.

3. Provides industry with an opportunity to participate in a community service.

School

1. Improves the working relationship between the school and the community.

2. Provides closer working relationship between vocational faculty and academic faculty.

3. Provides for specialized training by utilization of qualified training sponsors.

4. Provides for special teaching aids in technical subjects.

5. Teachers are kept in touch with changing employment and working conditions.

Community

1. Provides a means of developing young people into informed and productive citizens.

2. Assists high school students to become aware of local employment opportunities.

3. Promotes a closer cooperation and understanding between school and community.

4. Increases the buying power of the community's young people.

5. Provides specialized training at a lower cost in tax dollars.

TOUGHER RULES SEEN FOR FUTURE
'VOC ED' PROGRAMS IN ACCOUNTABILITY

Accountability has become the key word for vocational education programs. In his first speech as deputy commissioner-elect for the new Bureau of Occupational and Adult Education, William Pierce, Deputy Superintendent of the Michigan State Department of Education, cited accountability as the most important trend for vocational education. And he noted that the bureau will develop performance objectives to help measure results. He also predicted blunt criteria for programs in the future. These include federal funding on the basis of the success of individual students in occupations, not classes; responsibility of the school to place students in jobs; and insistence that students be trained for jobs that pay the standard federal minimum wage.

Pierce's remarks to the State and National Advisory Councils on Vocational Education followed the release of a critical study on "voc ed" programs. The study, conducted by the General Accounting Office (GAO), covered the four states which receive the most federal vocational funds--California, Michigan, Ohio and Pennsylvania. The report charged these states with keeping incomplete and inaccurate data and misusing funds targeted for the disadvantaged. The study also discussed the "image problem" of vocational education and the enrollment picture. It noted that federal spending for "voc ed" has increased from $57 million in 1963 to more than $500 million in 1972, while enrollment jumped only 14%. In 1971, 38% of the nation's high school students were receiving "voc ed."

The U. S. Office of Education (USOE) has responded to the(GAO) report by citing its emphasis upon career education to correct the "image problem." And it has begun a stepped-up monitoring of "voc ed" funds. Otto Legg, Deputy Director, Division of Vocational and Technical Education, says USOE is joining with regional staff to: provide program assistance to about eight states this year, insure that the purposes of federal funding are carried out, and elicit more substantive evaluations from states.

Pierce was equally strong in his comments about career education, which he considers the most important function of his bureau. He said that, "as much as possible," discretionary funds from other USOE "deputyships" will be directed as career education. He also listed other goals for the new bureau: emphasizing the combining of academic and vocational curricula, increasing the availability of vocational education by "breaking out from the walls of schools," expanding the role of guidance and counseling, placing special emphasis on community college programs increasing efforts for the disadvantaged and enlarging enrollments in all types of "voc ed" programs. On another subject, Pierce said technology may make it unnecessary for future students to know math, " and we can spend that time teaching something more relevant."

A RATIONALE FOR PASCAL STUDENTS ENROLLING IN OCCUPATIONAL CLASSES

(This may apply to any course)

The Career Education curriculum for Riverton School District #25 consists of two programs, the K-14 Career Education Program and the Occupational Life Training Program.

The K-14 Career Education Program is designed to develop career awareness grades K through 6, career exploration grades 7 through 12 and vocational skills grades 11 through 14.

The Occupational Life Training Program is designed to develop career awareness, career exploration, and vocational skills for dropout and potential dropout students grades 9 through 12.

Expensive equipment would have to be purchased for both career education programs if both programs were to operate separately, this would involve considerable duplication.

To avoid such duplication a portion of the Occupational Life Training Program's budget was used to purchase equipment for the K-14 Career Education courses when feasible and will allow the Occupational Life Training Program to use K-14 Career Education laboratories for instructional purposes when possible.

OCCUPATIONAL PROGRAM

SCHOOL DISTRICT #25 - CHALLENGING PROCEDURE

We recognize some students enrolled in Riverton High School may have received some specific type of training, knowledge or skills from outside the regular school curriculum.

Therefore, it is possible that High School credit can be obtained by challenging a specific course where the student feels he can pass the comprehensive, written test. In some courses a practical test will also be required. The tests, both written and practical, will cover all of the course requirements the instructor feels necessary to receive full credit in the course. The test must have the approval of the Assistant Superintendent of Schools.

Should a student decide to use this method to obtain credit for an approved course, the instructor of the particular course will prepare a comprehensive test to cover the course that is to be challenged. If the student passes the test with a passing mark, the appropriate credit will be awarded and recorded on the permanent record card.

Challenge Request

Name of Student_____ Date_____

Course_____ Grade_____

Credit Desired _____ Instructor_____

List your reasons why you feel you have the knowledge or skill to challenge this course. (List work experience on training, dates, names of employers, etc.)

Parent's Signature _____

Instructor _____

Occupational Director _____

Student _____

It is understood by the student that if a passing mark is not obtained on the test - no credit can be awarded. A waiting period of one full semester is required before the test can be retaken, evidence of recently acquired knowledge or on-the-job training must be presented before retaking the test.

APPENDIX C

Addendum to Original Booklet

3. Need to Sharpen Statement of Objectives.

It is evident from the preceding discussion (in relation to guidance, counseling, and placement being directed toward assisting individuals at different age levels and in mastering certain tasks that are essential to successful career development) and the objectives stated in the original proposal that: first of all, career development is a developmental process that begins early in life; second, that career development is closely interwoven with other developmental areas such as the emotional, the physical, the social, the intellectual, and the educational areas; third, the educational establishment cannot ignore this aspect of an individual's development until just prior to his separation from school, but rather must systematically set about at all levels of education to provide those experiences necessary so that each level of education may serve as a meaningful theme for accomplishing other developmental tasks. The above basically outlines the process of the proposed project.

The statement of objectives in the original proposal includes both product and process objectives. The product objectives are only representative examples for different educational levels. No differentiation is made in process objectives by level. Those process objectives that relate to guidance, counseling and placement stress that a major role of the counselor and other educational personnel will be to mobilize and manage school and community resources in accomplishing career development objectives.

Process objectives at all levels will include the following:

(1) To provide students with experiences and information that presents occupational dimensions accurately and representatively;

(2) To provide appropriate situations at different levels so that all youth may have an opportunity to make decisions, to discuss and examine the decision-making process, and to understand the basis for judging the quality of one's decisions;

(3) To manage and modify environmental factors to insure maximizing the impact in accomplishing career development objectives.

Product objectives at the elementary level would include basically the following: the student at the lower elementary level will be able,

(1) to identify workers in the school and can state how the different workers contribute to the well being or to his well being and the welfare of the school community;

(2) the student at the lower elementary level can identify workers within the community and can state how the different workers contribute to his well being and the welfare of the community:

(3) the student at the middle and upper elementary levels will broaden his contact with workers beyond the school and those readily observable in the community;

(4) he will be able to identify persons in various occupations and can make some differentiation between occupational skills used by different individuals, the prerequisite skills needed to enter these occupations, and the contribution each makes to our society;

(5) the student at the upper elementary level will be able to differentiate those self characteristics and environmental factors that can have impact upon his future, and begins to discuss ways in which others have minimized negative factors and have maximized positive ones;

(6) a student at the middle and upper elementary levels will demonstrate how certain knowledges and skills acquired in different school subjects are applied in different work roles;

(7) a student at the upper elementary level will demonstrate a knowledge of most common resources and approaches available for learning about and assessing the world of work;

(8) the student, during his school activities, will express a positive attitude toward self, others, and educational programs and different types of work roles;

(9) the student will discuss the importance of teamwork in different types of work settings, cooperate with others in order to reach a common goal, and will be able to express the importance of his contributions and that of others in reaching a common goal;

(10) the above will tend to incorporate the "attitude development" and "world of work or career orientation phase" of the project proposed.

The product objectives that relate specifically to the junior high school level of the proposed project are stated as follows:

A. The student will be able to further differentiate himself and his characteristics (interest, values, abilities, and personality characteristics) from those of others, and can identify broad occupational areas and levels which may be more appropriate for him;

B. Students will be able to differentiate between the several broad occupational areas or clusters in terms of:

1. a potential satisfaction each might offer him;

2. the nature of work tasks performed;

3. the future impact technology might have on particular occupational areas;

4. the contribution and importance of particular occupational areas to our society, and,

5. the future demand for workers in broad occupational areas.

C. Students will be able to identify different occupational educational areas that are available both in the immediate and more distant future, the nature and purpose of each, the avenues toward which each can lead, and tentatively assess what each offers him in terms of his possible occupational choices. He will demonstrate how knowledge and skills acquired in different subject matter areas relate to performing different work roles. He will recognize the personal and social significance that work has in the lives of individuals in varying levels with the occupational structure.

D. The student will be able to identify future decisions he must make in order to reach different goals.

E. He identifies those personal and environmental efforts that impinge upon his future decisions.

F. The student will make a choice of a broad occupational cluster to study in greater depth and detail.

G. The student will be able to differentiate between the major occupations that make up a broad occupational cluster and can make some differentiation of these occupations in terms of:

(1) the amount and type of education needed for entrance;

(2) the content, tools, setting, products or services of these occupations;

(3) their value to society;

(4) their ability to provide him with the type of life style that he desires;

(5) to what extent they can satisfy his interests and values;

(6) in what ways they do and do not seem appropriate for him.

H. Students will select additional education in light of his tentative broad career purposes.

Generally speaking, the overall phase objectives in relation to "career orientation" and "exploration" might be stated as follows:

To help students develop plans regarding their occupational and educational futures. Purpose of this particular phase is stated as follows:

(1) to assist the student in the development of a realistic self-concept and in appraising his own characteristics, interests, aptitudes, personalities, and abilities in relation to a variety of occupational opportunities;

(2) to help the student gain a better knowledge, understanding, and appreciation of the changing employment patterns and opportunities in the world of work;

(3) to help the student understand the basic processes; production, processing, distribution, manufacturing, construction, in the American work economy and the importance of human relations and ingenuity in these processes;

(4) to acquaint the student with the major occupational clusters (including specialization relationships to other occupational areas, kinds of work involved, trends, and educational requirements) in the world of work.

(5) to help the student develop desirable attitudes toward work and to appreciate the dignity of every occupation.

An inherent part of the above, the institutional objectives are to be stated as:

(1) to explore and to evaluate selected methods of orienting students regarding occupational opportunities;

(2) to broaden the base for occupational education offerings in the public schools.

Product objectives insofar as they relate to the secondary program are stated as follows:

(1) for the student to develop awareness of his need for more specific implementation of his career purposes;

(2) for the student to develop more specific plans for implementing his career purposes;

(3) the students will be able to execute plans to qualify for entry-level jobs by taking appropriate occupational education at the high school level, by on-the-job education, or by pursuing further education in college or post-secondary occupational education, leaning toward qualifications for some specific occupation.

Product objectives relating to the post-secondary phase of the proposed project are stated as follows:

(1) student will be able to consider different educational avenues and make reasonable choices among the alternatives available;

(2) the student will be able to either successfully follow through on his original choice or choose and pursue another;

(3) the student will complete his chosen occupational education plan and successfully implement his next step.

Inherently, as part of the K-14 elementary, junior high school, high school, and post-secondary phases, the placement function will appear as an integrated activity designed to culminate itself with placement of the student either in higher occupational education or on-the-job placement.

Provisions for carrying out the proposed project in terms of activities, designed to accomplish the objectives previously stated are as follows:

A. Personnel and education

(1) to provide qualified occupational guidance, counseling, and placement personnel in sufficient numbers to assure adequate assistance at all age levels;

(2) to develop inservice education programs for teachers, counselors, and administrators, (i) to help them conceptualize career development as an integral part of their work, and (ii) to improve their knowledge and skills with respect to techniques and materials to facilitate career development;

(3) to develop simulated and real work experiences for teachers and counselors which will bring them in closer contact with the realities of the world of work. (Cooperative occupational education programs with business and industry are to be encouraged in the preservice and inservice education of counselors.)

(4) definition of functions and responsibilities for paraprofessionals and support personnel, and short-term intensive education programs for the preparation of such personnel will be provided. These individuals then will be used accordingly under the professional supervision of qualified counselors or educators.

(5) to conduct evaluative research to estimate the effectiveness of counselor and support personnel education programs, procedures, and techniques in developing the understandings and competencies of those personnel to assume responsibilities in occupational guidance counseling, placement and instruction.

(6) to assess and revise where needed, college and university programs for the preparation of teachers, counselors and administrators to assure that (i) teachers and supervisors are prepared to develop and implement curricular provisions related to career exploration and development at all grade levels; (ii) counselors, teachers, and administrators that are thoroughly grounded in the theory and practice needed to provide occupational guidance, instruction and administration.

for the facilitation of career development for all children and youth at all grade levels, and (iii) administrators of guidance and instructional programs are to be prepared to plan and implement adequate occupational guidance, counseling and placement in occupational instruction programs for the school system.

B. Occupational education program content and procedures

(1) to introduce into the curriculum, appropriate experiences so as to provide for career exploration, attitude development, career orientation, and career preparation, decision making and reality testing for all elementary, secondary, post-secondary students, as well as for occupational education students at higher levels.

(2) to develop, distribute, and interpret occupational educational media to facilitate career development, attitude development, orientation and preparation experiences at all age levels.

(3) to provide appropriate and sufficient occupational counseling assistance for all students, and for out-of-school youth and adults considering pursuit of occupational education.

(4) to provide group activities specifically designed to maximize opportunities for career orientation, exploration, and attitude development in light of career decisions, and, as needed, for seeking and obtaining employment.

(5) to expand and encourage the use of simulated and real work situations for career exploration and career preparation.

(6) to teach decision making skills through opportunities for, and guidance in, actual participation in making occupational education, career, and social decisions appropriate to the individual's level of maturity.

(7) to create motivation through active participation and interactions of children and youth in relating educational experiences to career orientation, exploration, and attitude development, as well as decisions so as to make education relative to career life situations.

(8) to develop a curriculum and procedures, to include occupational guidance, that will make it easier and more rewarding for out-of-school youths and adults to re-enter the occupational education program to acquire new skills directly related to employment.

(9) to develop and support a program of occupational education and job placement which will appropriately involve educational personnel in all placement actions.

(10) to examine the pliability and validity of test data for selection and placement in occupational education curriculums and job situations. The significance of other variables, such as interest, personality, social, and instructional factors will be considered in this process.

(11) to institute a continuous follow-up of school leavers, graduates, and dropouts to provide information for the evaluation of program content and procedures in terms of external criteria and to provide further appropriate assistance to individuals as needed.

(12) to incorporate as many laboratory type activities as feasible to enable the student to achieve visable and concrete success as opposed to abstract and delayed symbols of success.

APPENDIX D

Solicitation Letter for Participation in the Exemplary Demonstration for Comprehensive Occupational Education

SUBJECT: Solicitation of "Letters of Interest" and Bids for Participation in the Exemplary Demonstration for Comprehensive Occupational Education.

As a result of the approval of the proposal submitted to the U. S. Office of Education concerning the "Development and Demonstration of a Functional Model System of Occupational Education in Wyoming Public Education, Kindergarten through Community College," the State Department of Education is now accepting: (1) "letters of interest" (until October 9, 1970) indicating those districts and community colleges who will be submitting formal bids for participation in the project as the demonstration and development site; (2) "letters of interest" are then to be followed up by October 23, 1970, with submission of a formal consortium bid, i.e., a written narrative agreeing to participate and abide by the project objectives and goals; endorsed by at least the administrative structure of a local K-14 curriculum, i.e., Superintendent of Schools (K-12) and community college president; (3) prior to the final selection and award, the State Department of Education will meet with the K-12 and Community College Boards.

A copy of the proposal is enclosed for review and digest. In the event a bid is being submitted, the teachers should be informed and their support sought. Flexibility, willingness and cooperation by both teachers, admininstrators and local boards will be a key factor in selecting the demonstration site. Specifically, the "letter of interest" should merely indicate that your district in conjunction with a community

college or vice versa will be submitting a bid to participate in the project as the demonstration site and a bid will be forthcoming. "Letters of interest" will be accepted only until October 9, 1970. Initial letters of interest and bids will only be accepted from Superintendents and Community College Presidents within the same community. After a demonstration site is selected, additional school districts within reasonable geographic proximity may be invited to participate.

Bids will be accepted until October 23, 1970. (a site will be selected by November 9, 1970) and should in effect convince the State Department of Education on the cooperating districts willingness to participate by specially discussing the following criteria:

(1) Willingness to develop the comprehensive K-14 curriculum.

(2) Flexibility exercised with freedom from rigid commitment to establish methods and procedures of guidance and counseling, instruction, in-service education of staff, administration, etc.

(3) Cooperation of districts involved (K-12 and community college).

(4) Physical facilities, a geographic proximity between entire K-14 curriculum.

(5) Willingness to seek additional (federal or private) funding from other or additional sources if necessary.

(6) Willingness of local staff to participate in project development.

(7) Use of present advisory committee in curriculum development.

(8) Job placement coordination.

(9) Graphic communicator and facilities available.

(10) Transportation of visitors in and out, and a willingness by the district involved to receive visitors.

APPENDIX E

LAP Catalogue

LAPS

Learning
Activity
Packet

published – summer – 1971

riverton, wyoming

LAPS

Written:

summer of 1971

SCHOOL DISTRICT 25

RIVERTON HIGH SCHOOL

CENTRAL WYOMING COLLEGE

RIVERTON, WYOMING

EACH LEARNING ACTIVITY PACKET ---------- $1.00
TEACHER AIDE and MINI-LAPS 6 for ---------- $1.00

Plus Postage
library rate unless otherwise requested

order by **NAME AND GRADE LEVEL**

MAIL REQUEST TO

school district 25
121 north 5 west
occupational program
riverton, wyoming
82501

KINDERGARTEN

Fall

Greenhouse

Grocery Store

Spring

Valentine Post Office

Winter

ELEMENTARY

ART

Art

Creating Things From Scrap

Cut and Paste

Environmental Art

Color

Creating With Line

I Can Make Colors

Line

Line Direction

Odds and Ends In Art

Straight Lines and Curved Lines

1st Grade

Happiness Is Moving About

Wyoming

Young Animals

Farm Animals

Fun Activity

2nd Grade

A Second Grader Made Us

Activities For October

Community Helpers

Farm (The)

Following Instructions

Fun Activities For Decem

Fun Activities [illegible]r N[illegible]

Fun Activities [illegible]r Septembe

Getting Ready F[illegible] W[illegible]

It's About Tim[illegible]

Let's Send Me[illegible]e

Penmanship

Transportatio[illegible]

Understanding [illegible] Have Read

Who Am I?

Trains, Car and [illegible]xicabs
Trucks, Bus, S[illegible] and B[illegible]ts
Bicycles and M[illegible]rcycles
Airplanes and J[illegible]s

3rd Grade

Dairy Workers

School Jobs

4th Grade

Compass (The)

Dogs

Forest To Newspaper

Fly (The)

Safety

5th Grade

Be Safe Everywhere

Exterior Painting

First Aid Now

Home Construction

Teacher's Kit

4th, 5th, 6th Grades

Band

Beginning Cornet

Beginning Drum

Beginning Flute

Beginning Saxophone

Beginning Trombone

Clarinet

Math

Bank and You (The) 5th, 6th Grade

Beef Industry 3rd Grade

Brief Review of Fractions
4th, 5th, 6th Grades

Brief Review of Multiplication
And Division

Brief Review of Roman Numerals

Buying Farm Equipment 3rd Grade

Figuring Live Weight 3rd. Grade

Horse Industry 3rd Grade

Math and Business 5th, 6th Grade

Math In The Everyday World 5th, 6th

Review of Addition and Subtraction

Small Flock Owner, 3rd Grade

Trucker 3rd. Grade

Veterinarian, 3rd Grade

Wool Grower 3rd Grade

Science

Experiment With Heat 4,5,6th Grade

Science 4,5,6th Grade

Social Studies

British Isle 5th, 6th Grade

Cities Problems 5th Grade

Colonization of North America 5th

Covered Wagons In Early America 5th

Exploring America 5th Grade

Geological Location Determines Work

How In The World Did They Get Here

Indians 4th Grade

Legend of Colter's Hell 4th grade

Social Studies

National Forests In Wyoming
4th Grade

Rider 5th Grade

Shoshonean and Settlements
of Wyoming 4th Grade

Transportation 5th Grade

Trash 5th Grade

Why Immigrants Come to
America 5th Grade

Wild Flowers of Wyoming 4th Grade

Wyoming Grows 4th Grade

Man- Where He Came From Where He
Is Going

Methods of Communication And
Transportation of Early Wyoming

Special Education Primary

Who Are You ?

Clap In Time

I Like Me

What ? Me Work?

We're Putting It All Together

Special Education

Engines

Simple Machines

Misc.

Engine Parts 6th Grade

Knowing You 4th, 5th 6th Grades

A Ma[illegible]

Birds

World Of Work

Mini-Labs Teachers Atlas

Christmas

Enrichment Activities

Halloween

Owl

Thanksgiving

Valentine

Robin

April, May, January, March
February

Anticipating The Future

Measuring Time Within School

Rates of Growth

Rates of Movement #6

Recalling the Past #4

Time Periods #3

Time Sequence #2

The School Staff

Use of Week and Day

Measuring Time Within A Week #10

Conventional Time Units #11

Measuring Time With Calendars #12

Months #13

Art

Forms Using Cylinders

Painting Abstract Of Impressior

Painting A Water Color

Painting and Landscaping

Painting Forms

Watercolor and Ink

Watercolor, Ink Stick Drawings

English

About Public Speaking

Ancient Greek Mythogoly #1

Elements of A Short Story

Hippie, Hippie

How To Build A Bigger Vocabulary

You And The Short Story

Electricity

Electrical Circuit Symbols

Electrical Laws

Parallel Circuits

Series Circuit

Sources of Electricity

Geography

Cultural Geography

Geography In The Cities

Geographical Tool Skills

Manufacturing Agriculture

World Is Your Ball Dont' Drop It

Home Economics

A Dream Bedroom

Are You Ready To Cook

Baking A Butter Cake

Brighten Your Room With Accessories

Clothes In The Clouds

Creative Stitchery

Dollars From Your Sense

Food For The Future

Fruit Pies

So Sew

Using A Candy Thermometer

Industrial Arts

Figure Carving

Finishing Leather

How To Make A Billfold

How To Make A Coaster

How To Lace

Leather Craft

Let's Make A Book Marker

Language Arts

Action Group [illegible], 8th Grade

A Cowboy's Dream 7th, 8th Grade

Christmas Customs 7th, 8th Grade

Gods and Heroes 7th, 8th Grade

Letter Writing 7, 8th Grade

Look Around You 7th, 8th Grade

Wyoming Stories, Poems and Legends 7th, 8th Grade

Orientation

Do Your Own Thing

Getting The Job Scene

Happy Lap Happening

Job Clusters

Managing Your Money

Who Am I

Reading Lab

Helen Keller Couldn't Read

Read The Directions

What Do You Read?

Science

Cell Structure

Interdependance In Land Organisms 7th Grade

Interdependance in Water Organisms

Using The Microscope 7th Grade

Art

Sculpture In Clay

Throwing On The Potter Wheel

Ceramics Glaze

Ceramics Moist Clay

Lettering Is As Simple As ABC

Auto Mechanics

Distributor Tester

Hand Tools

How To Use Specs., Manuals, etc.

General Shop Safety

Safety In The Auto Shop

Safety In The Mechanics Shop

Servicing and Testing Batteries

Auto Mechanics - Mini-Laps

Drill Press Safety

Safety In The Use of Arc Welding

Safety In The Use of Chain Hoist

To Develop Safe Working Habits On The Grinder and Buffer

Use of Welding Tip Adjustments and Shutting of The Torch

Steps For Setting Up Oxyacetylene Welder for Welding

Biology

Animal Cells M/L #5

Blood Typing

The Cells That Robert Hooke Saw

Living and Lifeless Systems

Microscope and Its Uses

Plant Cells

Science of Life

Slide Preparation

Staining Cultured Bacteria

Theory of Evolution

Business

Aids and Protection For The Consumer

Banking M/L #1

Budgeting M/L # 1,2,3

Business and Our Economic Systems

Credit M/L # 1, 2

Depreciation

Division Ten Key Adding Machine

General Business

Income Tax

Introduction To Touch Addition

Investigating Career Opportunities In Business

Multiplication Ten Key Adding Machine

Old King Cole Convered Programming From An Expense To A Revenue Item

Printing Calculator

Production And Marketing

Recording The Buying Of Merchandise on Credit.

Business cont.

Recording The Buying Of Merchandise On Account

Recording Cash Payments

Research In Production And Marketing

Role Of Government In Business

Savings And Securities

Subtraction Ten-Key Adding Machine

Typing Business Letters

Chemistry

Atom In Our Hands

Biochemistry of Foods

Bonding and Molecular Structure

Chemical Pesticides

Chemical Reaction and Salt.

Chemistry of Petroleum

Compounds And Chemical Reactions

Cosmetic Chemistry

Electrical Nature of Matter

Key To Chemistry

Mathematics of Chemistry

Molecules and Gases

Periodic Table

Electronics

Electricity Electronics I

Electricity Electronics II

Using Resistors

Vacuum Tubes

English

Critical Book Review

Language As A Learning Tool

Language of Allegory

Language of Change

Language of Poetry

Language of Self

Mod Flier

Rhetoric

To Be Or Not To Be (Enriched)

Home Economics

Careers In Textiles and Clothing

Your Career In Food and Nutrition

Industrial Arts

Grinding Tool Lathe

Hard Soldering

Jewelry Design

Knurling

Lathe Threading

Mathematics and Measurements

Metals Used In Jewerly

Tapering

Orientation

Why You And Occupational Education

Accounting

Accounting For Investment

Corporations Additional Stock Transactions

Corporation Decisions

Long Term Liabilities

Partnership Accounting

Where Theory Ends and Reality Begins

Chemistry

Balancing Equations

Chemical Periodicity

Chemistry of

Electron Structure

Gas Laws

Properties of Gases

Properties of Liquids

Solids

Computer

Flow Charts

Introduction to Basic Language

Orientation

How To Study Parts I & II

Orientation to Junior College

Reading Comprehension

Mathematics

Decimal Fractions

Fractions

Percentage

Metric

Square Roots of Numbers

Whole Numbers, Practical Math

Physics

Nature of Physics

Practical Physics

Practical Physics #1

Law Enforcement M/L

Criminal Justice System In U. S.

The Future Professionalization
Of The Police Service

Analysis Of The Functional Division
Of The Modern Law

Enforcement Agency

Recruitment, Selection, Training,
and Discipline

Police Management

Structure of Organization

General Principles of rganization
and Administration of Law
Enforcement

Preparation for Patrol

APPENDIX F

Dr. David Glenday's Papers Concerning LAP Writing

Workshop on Career Education

Education Vocational E-674M Dr. Glenday

PSYCHOLOGICAL BASES FOR CURRICULUM DECISIONS

The characteristics and needs of adolescents who occupy grades seven through twelve, inclusive, of American school systems have often been state broadly, i.e., without reference to the adolescents of any one community. Learners who are in grades seven and eight, as well as a few of those in grade nine, are said to share the physical development, characteristic reactions, and special needs of preadolescents and early adolescents, which may be stated in brief form as follows:

Physical Development:

1. Wide variations in rate of development become strikingly obvious.
2. The beginning of puberty is marked by a period of rapid but uneven growth, following a plateau period in both height and weight.
3. The "pubescent spurt" usually starts between nine and thirteen.
4. Girls are usually taller and heavier than boys during this period. They are in many respects two years ahead of boys in development.
5. Reproductive organs are maturing, and secondary sex characteristics are developing.
6. Energy is at a high level among those not yet maturing. There is sometimes fatigue among those who are maturing.
7. The heart is not developing as rapidly as the remainder of the body, and bone growth is not always matched by corresponding muscular development.
8. Unevenness of growth causes features, hands, feet, and legs to be out of proportion for a time.
9. Awkwardness, poor control, and poor posture often result from uneven growth.
10. Appetite may be enormous but uncertain.
11. The child who is coming into adolescence needs eight to nine hours of sleep.

Characteristic Reactions:

1. Seeks acceptance by age-mates.
2. Gangs continue, though loyalty to the gang is stronger among boys than among girls.
3. Sometimes much teasing and seeming antagonism between boy and girl groups.
4. Those who are maturing beginning to show interest in the opposite sex.
5. Interested in team games, outdoor activities, pets, hobbies, collections, radio, television, comics, motion pictures, and ways of earning money. Interests of boys and girls diverging.

6. May become moody, overcritical, changeable, rebellious, uncooperative.
7. Opinion of own group frequently valued more highly than that of adults.
8. Can work cooperatively on teams and in groups. Strong emphasis on fairness and on rules.
9. Self-conscious about body changes.

Special Needs:

1. Varied programs to meet different maturity levels.
2. Organized class and group activities based on boys' and girls' needs and interests.
3. Help in understanding physical and emotional changes which are beginning to take place.
4. Warm affection and sense of humor in adults; no nagging, scolding, or talking down.
5. Sense of belonging in the peer group.
6. Opportunities for boys and girls to do things together in group situations.
7. Opportunities for greater independence and for carrying more responsibility without pressure.
8. Special help for those who are maturing much faster or much more slowly than their companions.
9. Personal acceptance of the irregularities of both physical and emotional growth.
10. Acceptance of continued need for some dependence on adults.
11. Help in developing skills which make it possible to take part successfully in group activities.
12. Recognition of individual capacities and abilities, with planning of special programs to meet needs and avoid discouragements.

Learners in senior high schools are generally believed to share the following characteristics and needs:

Physical Development:

1. Most children have matured by age fifteen, with accompanying physical and emotional changes.
2. In many respects, girls are about two years ahead of boys until the end of the adolescent period.
3. The awkward period of uneven growth is passing.
4. Adult appearance is developing. By the end of the adolescent period, bone growth has been completed, and adult height has been reached.
5. The heart is still increasing greatly in size at the beginning of the adolescent period.
6. Acne often presents a problem.
7. The energy level is unstable.
8. Appetites--especially boys' appetites--are large.
9. Adolescents usually need at least eight hours of sleep.

Characteristic Reactions:

1. Mood swings--sometimes defiant and rebellious, sometimes cooperative and responsible.
2. Often searching for ideals and standards; anxious about the future, trying to "find himself."
3. Preoccupied with acceptance by one social group, particularly by members of the opposite sex.
4. Afraid of not being popular, of ridicule, of not being like other adolescents; oversensitive to the opinions of others.
5. Concerned about his own bodily appearance.
6. Desirous of asserting independence from his family, but willing to return to adults for moral support.
7. Sometimes responds better to teachers than to parents. Tends to identify with an admired adult.
8. Wants responsibility but is often unstable in judgment.
9. Wants the independence of earning his own money.
10. Sometimes acts as if he "knew it all," but is insecure within himself.
11. Responds well to group responsibility and group participation.
12. Shows intense loyalty to his own group.

Special Needs:

1. Acceptance by his age-mates.
2. Adequate knowledge and understanding of sexual relationships and attitudes.
3. Help in accepting his permanent physical appearance.
4. Opportunities to carry responsibility and make decisions.
5. Opportunities to earn and save money.
6. Provision for recreation with members of the opposite sex.
7. Assistance in learning about and choosing a vocation.
8. Organized group activities, based on group planning and participation.
9. Help in establishing more mature relationships with other members of the family.
10. Guidance which is kindly, unobstrusive, and free of threat to one's freedom.
11. Warm, understanding, supportive acceptance by parents.
12. Guidance in physical activities to prevent overdoing..
13. Opportunities to develop his own interests and skills.
14. Help in keeping a balance between group needs and individual needs and interests.
15. Guidance in developing special skills and talents.
16. Help in accepting and understanding those outside one's own group.
17. Help in understanding why people feel and behave as they do.

Lists of this kind have been produced and reproduced widely during the past two decades. Those who have created them have usually warned that they are not to be regarded as models or norms but only as general descriptions or "age profiles." They result from observation of numbers of children and youth, and they are useful in viewing broadly the expectations which may be held for groups of pupils in the schools.

Havighurst has provided a somewhat different dimension, which he calls "developmental tasks," i.e., tasks which arise at or about a certain period in an individual's life. The tasks emerge from a combination of factors: maturation, the culture in which children are reared, and the nature of the individual child himself. The concept of developmental tasks is therefore an interdisciplinary one, originating in individual psychology, human growth and development, and sociology.

For childeren between ages six and twelve, Havighurst's list of tasks includes: learning physical skills necessary for ordinary games, building wholesome attitudes toward oneself as a growing organism; learning to get along with age-mates; learning an appropriate masculine or feminine social role; developing fundamental skills in reading, writing, and calculating; developing concepts necessary for everyday living; developing conscience, morality, and a scale of values; achieving personal independence; and developing attitudes toward social groups and institutions.

Workshop on Career Education

Education Vocational E-674H

BASES FOR CURRICULUM DECISIONS
(Assessment of present practice and guide to improvement)
From Schools for the 60's

A. Societal values meaning (1) ideals, standards, and norms of the desirable and (2) operational values (what people do)
   1. Respect for the worth and dignity of every individual
   2. Equality of opportunity for all children
   3. Encouraging human individual differences
   4. Faith in man's ability to make rational decisions
   5. Sharing responsibility for the common good
   6. Respect for moral and spiritual values and ethical standards of conduct
   7. Other

   (Can these be made behavioral?)

B. Objectives of Education: The Priorities (What are the unique responsibilities of the school in society?) Toward the development of the premise that a changing society requires the capacity for self-teaching and self adaption, school priorities as viewed as those that aid youth to:
   1. Learn how to learn, how to attack new problems, and how to acquire new knowledge
   2. Use rational processes (e.g., Louis Rath's thinking operations)
   3. Build competence in basic skills
   4. Develop intellectual and vocational competence
   5. Explore values in new experience
   6. To understand and apply concepts and generalizations
   7. Other ends toward developing pupil ability to learn under his own initiative and an interest in making education a lifelong endeavor

   (These need to be made behavioral)

C. Social forces and trends as a source of curriculum needs (What impact does contemporary society have on educational decision-making, including such forces as:
   1. Science and technology
   2. Economic growth
   3. Large bureaucratic organizations
   4. Leisure time
   5. Mass media, such as TV
   6. Urbanization
   7. Population growth
   8. International interdependence
   9. International conflict
   10. Other

   (These forces need to be broken down into problems, elements, disciplines, structures, etc.)

D. Needs and interests of learners as a source of curriculum decisions (Research on thinking, learning, and personality ought to be considered in developing curriculum change and teaching methods. Some psychological aspects of growth and development such as the following need be assessed in planning educational experiences:
   1. Recognizing and encouraging creativity
   2. Encouraging the development of responsibility
   3. Promoting the development of positive self-attitudes
   4. Relating learning to developmental stages on continua
   5. Evaluating motives of learners
   6. Providing for inter- and intra-individual differences
   7. Providing for social-group experiences
   8. Other

   (Curriculum planners will ask, "How do I assess these, and what content and experiences can best be provided to meet these challenges?")

E. Organized knowledge (academic disciplines, subject matter) as a source of curriculum decision-making). The "knowledge explosion" along with instant revisions renders education viewed as "cataloguing factual knowledge and memorizing it" as dysfunctional in a changing world. This premise leads toward the development of "structure" in the disciplines, such as generalizations, rules, and styles of thought by both scholars and teachers. (See Schools for the 60's, Chapter 2 and national projects in curriculum revision, such as BSCS, SMSG, etc.)

(See pages 7-11 in Schools for the 60's)

APPENDIX C

TRU Philosophy and TRU-Scan

Philosophy of Career Education

(K-6)

It will be the goal of Career Education to instill within children the realization that all jobs have dignity and worth.

All children should have available to them, the opportunity to investigate job opportunities, to develop an awareness and an understanding of various occupations.

We believe that Career Education should be inter-woven with the basic curriculum in such a way that it will supplement and reinforce basic skills. It will be correlated with subject matter to enhance learning in the established curriculum.

Objectives:

1. To create respect and appreciation for all services rendered by workers.
2. To foster the realization that basic skills are vitally necessary in adult occupations.
3. To develop an attitude toward work in regard to promptness, responsibility and cooperation that will be acceptable in future employment.
4. To inspire interest in a variety of occupations so that a more meaningful choice may be made when the child is mature.

TRU-SCAN

CODE_____

TEACHER'S RESOURCE UNIT (TRU)

A. Title/Subject:
(Topic, Concept, Skill,etc.)

B. Teaching Objectives
(Short, Direct, Well-focused)

This TRU may apply to the following disciplinary areas:

_____ Math
_____ Lang./A
_____ Spell
_____ Soc.St.
_____ Occup.
_____ Arts/crafts
_____ Music
_____ Science
_____ Other
( )

C. Suggested Activities for Students
(Samples only, limit to 4 or 5)
(Select best TOA's (ie Turn On Activities); critical activites; exciting and novel activities)

D. Career Opportunity References
(List career to which this topic, concept, or skill may apply)

E. Materials
(samples; non-text; varied; available)

TYPE LOCATION

F. Estimated time to complete unit (mini-max)_____ to _____

TEACHER RESOURCE UNIT: TRU

Code _____
Pull Lap _____
Mini-Lap _____

A. Title/Subject:

B. Student Objectives

C. Suggested Activities

Ideas for introduction:

List Learning Activities Under Appropriate Heading

MATH

LANGUAGE ARTS:

SPELLING

SOCIAL STUDIES

ARTS/CRAFTS

MUSIC

SCIENCE

OTHER ACTIVITIES

CAREER OPPORTUNITIES IN THIS AREA

LEARNING MATERIALS	LOCATION

APPENDIX H

Program Determination

PROGRAM DETERMINATION

All programs within the curricula of the proposed career education center are subject to the initial approval of the Superintendent, Assistant Superintendent of Instruction, and the Board of Trustees of School District #25 of which the career center is a unit.

Appropriate personnel from the local administration, instructional staff, and the various advisory committees are involved in all planning and evaluative stages. Approval of the State Board of Education is mandatory prior to implementation of a proposed curriculum.

The secondary and post-secondary curriculum of the career education center is developed to prepare students with special needs for job training to enter into and maintain successful performance within an occupation or to provide the student with upgrading or refresher training necessary to his occupation. In addition, in the adult and continuing education division a variety of special programs and subject offerings constitutes a community service and general interest opportunity for education for all.

Curriculum development in the secondary and post-secondary programs follows a standard procedure, including but not limited to the following:

1. Identification of specific needs for trainees and/or training.

2. Establishment and use of an advisory committee equally representative of labor and management within the occupational field, and including lay members representing the community and related areas of interest. All meetings are formally structured and minutes are kept.

3. Documentation of need for the training program includes the following:

    a. scope or occupational cluster
    b. identification of special need population
    c. survey of job opportunities
    d. identification of potential students and their general needs
    e. analysis of the occupational cluster to determine its potential demands
    f. analysis of existing programs offering the same training
    g. analysis of existing curricula
    h. evaluation of facilities, cost, and other factors affecting the offering of the program

4. Analysis of tasks, knowledge, and understandings necessary to successful job performance and translation of these into subject areas of instruction.

5. Analysis of performance levels adequate for success in the occupation with these levels measured in task rather than subject proficiencies.

6. Identification of equipment, instructional materials, and facilities necessary for training to meet job performance levels.

7. Establishment of criteria for selection of instructors and identification of candidates to assure successful instruction.

8. Establishment of criteria for selection of students to assure their needs are met in a likelihood of success in the occupation.

9. Development of a syllabus based upon need identification, subject identification, facilities, and methods used for instruction, sequential relationships of task skills (flow chart), knowledge and understanding, criteria for approval from all agencies concerned, employment outlook, and other pertinent consideration.

10. Preparation of proposals for the local board and State Department of Education, including the above information and a categorical budget.

11. Development of course of study based on occupational analysis and student needs. All course of study include the following:

    a. job performance levels
    b. task performed on the job
    c. measurement of performance levels (behavioral objectives)
    d. instructional materials and methods
    e. contact hour per unit or day
    f. flow chart indicating instructional sequence

12. Quarterly and annual reports, evaluation, revision of each course of study.

13. Documentation of curriculum.

The lay advisory committees are made up of persons from labor and management. The latter should include persons who function on the mid-management level. This group is concerned with answering the following questions:

1. To what extent does the occupational field offer employment opportunities to those who may be trained.

2. To what extent is the occupation sufficiently stable to warrant an expenditure of public funds for a training program.

3. What will be the affect of scientific research and invention on the field of employment.

4. Will a training program in this field be unreasonably expensive for the tax payers to support because of technological changes or early obsolescence of physical facilities.

5. To what extent does the nature of organization with the occupation assure cooperation of the industry with the school program.

6. To what extent will community wealth or welfare be increased through the proposed program.

7. Will the training benefits of the proposed program be general in nature and serve a large area of the economy.

8. Are there any legal conditions which might make the operation of the programs difficult.

9. Would the proposed training programs duplicate existing programs offered by other schools.

10. What will be the cost of the program.

11. Will any financial assistance be available from outside the local school district.

12. Is it possible to recruit an affective instructor or instructors for such a program.

13. Can the proper physical facilities be provided.

14. What is the priority of this program.

APPENDIX I

Philosophy of Elementary Career Education (K-6)

PHILOSOPHY OF ELEMENTARY
CAREER EDUCATION
K-6
School District No. 25

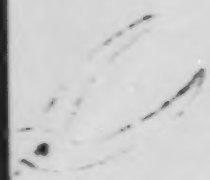
The first purpose of education is to prepare the student for his role in a free and changing society. The academic skills are a necessity if the student is to feel secure in life. A variety of experiences must be made available in order that the student have choices for consideration when making career decisions in later schooling.

Career education in the elementary school will acquaint the student with the "World of Work" so as to foster a positive attitude toward the "Dignity of Work" in our society. Every occupation, no matter what the title, educational requirements, salary, or working conditions is a necessary and vital component of America's work force. Knowledge of workers and the dignity of work will nurture a respect for others, an appreciation for their contributions, and a pride in the world of work as a whole.

Attitude formation may come about by allowing the student to become aware of the "World of Work" through exposure to occupations and discovery of information concerning them. The degree of exposure will be determined by the teacher, based upon class attitude, materials, and the classroom facilities (situation). Above all, the teacher should feel comfortable with what is being done.

There are skills which every person must have in order to function successfully in society. The basic skills of reading, language arts, math, social studies, science, health and art will not be sacrificed. Rather, the skills will be developed to serve as a strong foundation for occupational study. Students will become aware of the importance and relationship of academic disciplines to the "World of Work". As much as possible, occupational education will be correlated with academic subjects to strengthen the relationship between the two areas and so as not to increase the teaching burden.

Education will teach or foster such habits as responsibility, promptness, honesty, and neatness which largely determine individual success in school and careers. A total K-6 educational program of correlated academic and occupational disciplines will produce students who have been exposed to a variety of occupations. They will have had the opportunity to express opinions, talents, and interests. Discovery through a "hands on approach" will be available to students for occupational study.



The total elementary program will serve as a foundation so that the student will be better able to explore career choices at the middle, secondary, vocational, or college levels.

APPENDIX J

An Overview of the Career Decision-Making Process

AN OVERVIEW OF THE CAREER DECISION-MAKING PROCESS

Contract No. OEC-0-71-0579 (361)

P.L. 90-576

Pat Begley
Orientation Teacher

AN OVERVIEW OF THE CAREER
DECISION-MAKING PROCESS

Introduction:

As a ninth grade student, you have reached an important stage in your development. You are now facing the problems of deciding what to be (your career) and to work out the plans needed in order to help you obtain your career goal. While you should probably not make your final choice at this time, you have to consider this problem. Also, you have to make many decisions which will influence your final career choice. You must decide whether to go to college, a vocational or technical school, or even whether to seek additional schooling or training beyond high school. Some of you will probably have to decide whether you will even finish high school. These are choices you are going to have to consider as you plan your high school program.

There are many other problems you will have to solve, such as, "How will I solve the problem of Dad wanting me to become an engineer, but I think I would rather be a coach?"

"Mother and Dad think it would be good for me to plan on getting a teaching certificate so that I will have something I can use if I need it, but I think that I am really only interested in some homemaking courses."

"I know that I am going to decide about whether I am going to go to college or not, but I really do not know just what I want to do, how does a person decide?"

"They tell me that I am going to go into medicine or engineering, I must get a good background in science and math as well as get good grades; but it isn't always fun to be known as the brain."

"What's the big rush anyway? I am only a ninth grade student."

How you work out the answers to these and similiar questions as well as the answers you choose is called the decision-making process. This course will be about this process. You will see as you study this process, it is a process which has already started in your life and will continue throughout your life.

The Importance of Understanding the Vocational Decision-Making Process:

A philosopher once said, "We all make decisions and we must be responsible for what happens as a result of the decisions that are made." Even if we decide that we are going to let others make our decisions for us, we have still made a choice. This means that whether you want to or not, you will have to make some decisions about your career future and because some of the decisions you make will have some far-reaching results, it becomes very important for you to understand how and why you make the decisions you do. For example, if you decide to take some high school courses, you will not be able to take some other courses. If you should decide now that you do not want to go to college and therefore do not take the

college preparatory courses, you will find it very difficult, if not impossible, to be admitted to some colleges if you should later change your mind and decide to go to college because you want to go into something requiring a college degree.

If you think about this for a few minutes, you will see that if you come to understand about how to make decisions and what factors influence the decision you make, it will not only help you with your present problems, but it will also help you everytime you are faced with making a decision.

The Occupational Decision-Making Process:

It has just been pointed out why it is important for you to understand the career decision-making process. We are now going to look at the factors that are important in this process.

We will study these factors with the aid of a framework developed by a team of investigators who studied various groups of students throughout the United States and found that there was a definite pattern of decision-making when the students participated in everyday activities. Some of the terms or names used in referring to the factors may be new to you. However, we will explain these terms to you and you will find that we will be talking about many things you are somewhat familiar with.

Factors in the Career Decision-Making Process:

1. Choice Factors

If you were to ask some younger students, such as fourth graders, why they wanted to be what they said they wanted to be, most of

them would probably tell you, "Because that is what I think would be interesting or that is what I like to do". At least when some people studied the reasons students gave for their career choices, it was found that the first reasons given were what are called interest reasons. The students chose some careers because it was something they liked to do or it was something in which they were interested.

As the students grew older, it was found that in addition to their interest, the students' choices were now largely influenced by their abilities or aptitudes (capacities). Now when a student was asked why he wanted to become an engineer, instead of just saying he liked science and math, he would say because he got his best grades in math and science courses. Thus, in addition to choosing something because it was interesting, students were also considering their abilities on how well they could do the work required.

At yet a later stage in their development, a third factor was found to be basic in the students' choice of a career. This factor was called the value factor. It has to do with the basic value system of the students. Now when students were considering jobs, they were thinking not only in terms of their interests and abilities, but also in terms of the basic kind of life they wanted to live. For example, Mike, who liked to work with people (interest) and had found that he could get along with them well (ability), decided to give up a choice of selling for the choice of teaching. He was fairly certain that he could make more money as a salesman than he could make as a teacher, but Mike was beginning to see that

he wanted a life where he could spend time at home and could become involved in community affairs. He could see that if he were to be a salesman like Mr. Jones, a neighbor who was always traveling and frequently was away from home for three or four days at a time, he would not be able to lead the kind of life he wanted.

Finally, after the students had moved through three stages we have just outlined (interest stage, capacity or ability stage, and value stage) the students entered what an investigator called the reality stage. This is the stage where students consider not only their interest, capacities, and values, but when they also have to relate the factors to their total situation. At this stage the students also considered such things as the job situations, their families' financial situation, their educational opportunities, their parents' desires, etc. Their career choices were determined by realistic appraisals of themselves and their situations. You can readily see that if students are to make realistic choices, it requires that they have accurate information about themselves, their situation, and the occupational world.

To briefly summarize what we have discussed about choice factors, we can say that it was found that the basis for students' career choices changed as they grew older. The first basis for their choices was interests; the second basis was capacities; the next basis was values; and the final basis was a realistic appraisal of all

the factors related to career choices. At this point you may want to take a few minutes to decide what is the basis for your choices.

2. The Independence Factor

One of the basic dimensions along which development takes place is from dependence to independence. Students' occupational development follows this same pattern. In early adolescence the student has to depend very much upon others, especially his parents, teachers, counselors, and friends, to help him with his decisions. However, as he grows and matures, he becomes more and more capable of making his own occupational decisions.

This growth toward independence often results in problems that are hard to solve. For example, how do you decide how much you want or how much should you have others help you with your choices? Also, some students sometimes wonder how to get others to let them make their own choices.

In this course there will be some of the problems with which we will have to work.

3. Active-Passive Involvement Factors

This is the factor that will probably need some exploration. This factor refers to how much a student tries to determine what happens to him. The "active" person works to see that what he wants to happen to him does. He is actively involved. He is one who not only decides that he wants to become more capable of making his own career decisions, but he works toward achieving this goal.

The "passive" person is more willing to let others or events determine what happens to him. He is passive and does little about trying to control the forces that are influencing him. He wants others or circumstances to determine what he will be.

There is another element that is closely related to this active-passive involvement which is called "work" or "pleasure" oriented. The work-oriented person sets up his objectives and works hard, if necessary, to achieve these objectives. He does not give up easily on his objectives or substitute other objectives that can be achieved easily and with less effort. The pleasure-oriented person is the opposite of the work-oriented person. He does not have very clear objectives and readily gives them up if something easier comes along. Because he is more interested in getting immediate satisfaction, he may give up some very important goals because it takes "too much time and effort" to achieve them. It is felt that the more career mature person is more actively involved in trying to select occupational goals and is work-oriented.

4. Means-Ends Cognizance Factor

This is another factor that needs an explanation. In this phase, means refers to the ways, plans, stages (means) a person will take to obtain his goals or objectives (ends). Cognizance means "to be aware of" or "to have knowledge of." So you see this phase refers to thinking about or planning how to obtain one's goals. Some students select an occupational goal and then do not plan out the stages which will lead to achieving this goal. Other students

select an occupational goal, and then they "plan out" all the steps needed to reach and obtain the goal. As a student becomes more career mature, he should become more concerned with not only selecting goals but also concerned with "planning out" just how these goals will be achieved.

5. Time Projection Factor

This factor is related to the means-end cognizance factor but there are also some differences. The time projector factor concerns the person's attitude toward time. There are two elements that are important here. The first one is concerned with the ability to distinguish between the past, the present, and the future. Some people live only in the past and do not think very much about their career future. Other people are "tied" only to the present and think and plan for what will happen now. These people also do not plan for their career future. There are other people who look mostly to the future. They do not think much about the past or the present, but are always thinking of what will be happening.

The second of the time elements is concerned with the person's tendency to think about how different things will lead to desired outcomes. Some people tend to "think out" how doing different things will turn out. They think about doing something one way and about doing it another way and deciding how it will turn out. As a result they are better able to select a course of action which will help them obtain their goals. Other people do not try to think through what would happen if they tried doing something different ways.

As a result it is more difficult for them to select an appropriate source of action.

6. Daydreaming and Fantasy Factor

These are things we all know about. However, sometimes students do not realize that it is through daydreaming and fantasy that they are able to "see what it is like" in different careers. Daydreaming about being a nurse can help a girl learn whether she would actually enjoy being a nurse or not. However, much of our daydreaming and fantasy does not help us because we do not think about the total picture. We "forget" to think about the unpleasant aspects of the job.

The ability to use daydreaming and fantasy in ways that are helpful in making career decisions increases with age. In this course we are going to be concerned with how to use our dreams constructively.

7. Self-Knowledge Factor

When a student selects an occupation he is saying, "I see myself as being this kind of person". In order to make appropriate career choices, it is necessary for the student to understand himself. He must know his aptitudes, interests, and personality characteristics. The more a student knows about himself, the better decisions he can make about his career future. Thus, we can see that self-knowledge is an important factor in the decision-making process and in this course you will have the opportunity to learn much about yourself.

8. Job Knowledge Factor

In addition to knowledge about himself, a student must also know about the jobs and occupations. He must, as we call it, know the world of work. You should realize that when we say a student's decision is dependent upon the knowledge he has, we are also saying that his decision is also greatly influenced by the lack of information. In other words, a student cannot choose to become a program analyst unless he knows about this job.

9. Self and Work Factor

The final factor important to career decision-making is called self and work. This factor is concerned with the student relating himself to the world of work. As a student learns both about himself and about various occupations, he has to put this knowledge together in a choice of a career. To do this, he has to learn how his interests, abilities, and personality characteristics relate to the demands and requirements of jobs. It is from a study of this relationship that the student makes his career choices.

Summary:

You have now covered a brief overview of the career decision-making process. This overview has probably raised many questions you will want to discuss. The remainder of this course is designed to help you come to understand these factors that make up the decision-making process and to apply them in your life. As you grow and develop in these factors, you are becoming more occupationally mature. At the end of this course, you should be better prepared to make the career decisions facing you.

BIBLIOGRAPHY

Collins, Barry E. A Social Psychology of Group Process for Decision-Making. New York: Wiley, 1964.

Deising, Paul. Reason in Society Urbans. University of Illinois Press, 1962.

Kogan, Nathan. Risk Taking. New York: Holt, Rinehart, & Winston, 1964.

Maier, Norman R. Problem-Solving Discussions. New York: McGraw-Hill, 1963.

Vickers, Sir Geoffery. The Art of Judgment. New York: Basic Books, 1965.

APPENDIX K

Wyoming Educator, May 1973

The Wyoming Educator

May, 1973
Volume 10, No. 9

WYOMING STATE DEPARTMENT OF EDUCATION
Robert G. Schrader, State Superintendent of Public Instruction

COMPREHENSIVE CAREER EDUCATION -- a Challenge and an Inspiration!

by Nan Patton

"What do you want to be when you grow up?"

Ask the average third grade boy or girl and he or she will probably answer, respectively, "A pilot or a fireman," or "A teacher or a nurse."

Ask a third grade boy in Riverton, Wyoming, and he is more likely to say, "I don't know yet. I might like to work for the Forest Service, but I think I'd like small engine repair, too. My sister does that in fifth grade. It's too early to decide for sure."

Riverton (population 7,995) is located in mid-Wyoming and surrounded by the Wind River Indian Reservation. Founded in 1906, it is the largest city in Fremont County, home of Chief Washakie, noted leader of the Shoshone Indians. The Shoshone and Arapahoe tribes share the reservation.

In 1970 School District No. 25 in Riverton initiated, with federal, state and local funds, a comprehensive career education program. Beginning in kindergarten, the program is open-ended and includes development of curriculum, instructional materials and individualized instruction. It blends academic and occupational education into a single approach to the world of work.

(Turn to page 2)

"The piston is a main part of the engine."

It is most unlikely that Riverton will ever be the same again.

Since educators have recognized, somewhat tardily, that higher education is not for everyone, career education projects across the nation attempt to make public education relevant and worthwhile for *all* students. The purpose of career education is to prepare students either for advanced education or for entry into and progress within an occupation. It also allows re-entry into the formal education program at any time an individual wishes. In short, as Riverton school superintendent James H. Moore says, "Basically, career education is what parents have expected to come out of the schools for years."

Roger Eder, manager of Sears and a distributive education job station sponsor in Riverton, said he thinks career education is "probably the greatest program going in the schools. Everybody has to get a job sometime. Career ed teaches you what it's all about."

Every child in the Riverton school system is being prepared to enter *and succeed* in the world of work.

Pupils in kindergarten through sixth grade are learning attitudes toward work through the use of materials developed within the existing curriculum. Trips to local enterprises and speakers from the professional and business community make them aware of the many ways that adults earn a living.

In junior high school students learn about job requirements and preparation in 11 different occupation clusters. Wyoming Occupational Resource Kits give them information about some 400 jobs.

Senior high students can work part-time in local firms to develop job-entry skills. Counselors help them match their abilities to local or regional opportunities, and offer occupational interest and ability tests. State employment counselors help school counselors place students in jobs or in two- or four-year college programs.

The clusters in the Wyoming occupational model are arranged in steps so that an individual can, with continuing education, advance from one skill to another throughout his working life.

In the electrical occupations cluster, for instance, a high school student might, upon graduation, be sufficiently skilled for employment by an appliance repairman. With further education, perhaps while working part-time, he could become an electrician, and later he might decide to go back to school and become an electrical engineer. The old idea of college-bound and non-college-bound becomes meaningless when careers are viewed in this way.

Dr. Harold A. Macon, school board member, put it this way: "For years we've been training kids to go to college. Too many times they get a degree and then discover they don't really like what they've been educated to do. With min. courses and exploratory courses kids have a chance to find out what they do and don't like to do."

The Riverton career education project includes 13 components: small engine repair, business and office education, building trades, drafting and welding, graphics, food service, auto mechanics, agri-business, diversified occupations and distributive education, auto body technology, drafting, allied health service and basic electricity. The instructors are selected for successful trade experience as well as for professional education or teaching experience.

Paul Sizemore, Coordinator for Comprehensive Career Education, K-Adult, State Department of Education, and the author visited Riverton for three

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ROBERT G. SCHRADER
State Superintendent of Public Instruction

days in April. State Superintendent of Public Instruction Robert G. Schrader joined us for one day.

I wanted a firsthand view of the Riverton exemplary project, which is acclaimed nationwide as one of the three top career education programs in the United States. (A map on the wall of Career Education Director Glenn Burgess' office is dotted with pins to show visitors and consultants from all over Wyoming and from California, Arizona, New Mexico, Utah, Colorado, Idaho, Montana, North Dakota, South Dakota, Alabama, North Carolina, Connecticut, Massachusetts and Washington, D.C.) Those three days provided a kaleidoscopic conspectus which left me more than a little awed, vigorously enthusiastic, and hungry to see more.

Can you identify a casing nail, a roofing nail and a finishing nail? Many elementary students in Riverton can. The school district removed the seats from a 72-passenger school bus and turned it into an elementary woodworking bus. Now in its second year, this project teaches young children about safety, use of tools and the satisfaction of making something with your hands. The children begin by using hand saws and advance to power tools. Some third graders are capable of using power saws by themselves.

First graders make bread boards — cutting, planing, rasping, sanding and finishing the wood with clear lacquer or Latex paint. Older children make stools, bird feeders and tool boxes.

An exploratory shop program at the junior high level offers experiences in carpentry from floor joist to shingles. The students begin by learning the terminology, then progress through selecting a site, buying real estate, surveying and mapping, soil testing and making work drawings. Finally, in groups of four or five they build a mock structure, doing a little bit of sheet rock work, plumbing and electrical wiring. Some 90 eighth and ninth graders are presently enrolled in this semester-long course.

Looking for a house? You won't find a better one than the three-bedroom house with full basement which is being constructed by the building trades high school students at Riverton. Started at the beginning of the school year with the construction of a tool shed, the house is scheduled for completion at the end of the year.

The approximately 25 students involved (including one girl, who was responsible for the tiling in the bathroom) spend three hours a day working on the project. Except for the sheet rock texturing and putting in the acoustical ceiling, which required professional help, the students have done all the work themselves, including laying the sewer pipe, pouring cement, pipe cutting and soldering, plumbing, furnace installation, electrical wiring and hand-made shelving and cabinets.

Following completion of construction, the house will be appraised and sold, with the students learning about appraisal methods and real estate selling. The school board budgeted $15,000 for the project; the house may well sell for $24,000.

In career education programs for first through sixth graders, one elementary principal told us, "We try to expose kids to as many different areas of work as teachers have time to do."

He also said that some elementary teachers use LAPS (Learning Activity Packets), but that "most start from scratch, produce their own units and use them."

Betty Reddock, first grade teacher at Jefferson Elementary, took her class to visit the junior college and the junior high school where they talked to people about different jobs in the school. One little boy, reporting on the superintendent's job, wrote "I am the superintendant and im the boss of everyone — even Mr. durr" (his principal). When we visited the class, Mrs. Reddock was making plans to take the class to visit an auto garage.

Frank Rotellini, principal at Ashgrove Elementary, said that career education is "providing the staff with another means of reaching many children we haven't been able to reach before. They could see no relevance to what we were teaching —

For Ray Berg, elementary industrial arts instructor, the school bus is the school.

WELDING

JUNIOR HIGH INDUSTRIAL ARTS

now they appreciate the need for math and science and English." Rotellini also pointed out that the teachers involved in career education are learning a great deal themselves about different occupations.

Anne Petsch, primary teacher at Lincoln Elementary, had units this year on wildlife and conservation and on the oil industry. A biologist, a park ranger and a trapper visited the class to talk about their jobs, and the class also explored oil drilling and petroleum engineering.

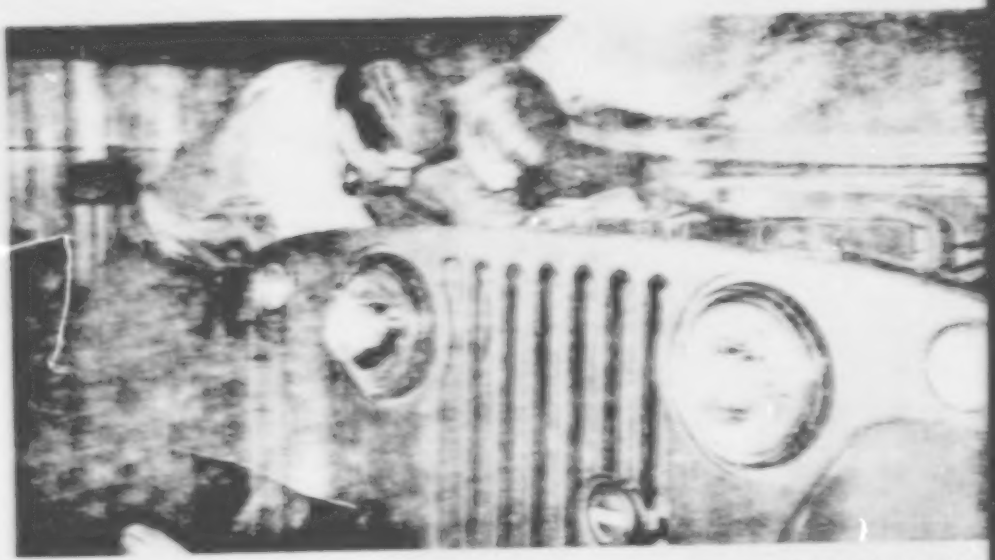
Linda Ibach's kindergarten class at Lincoln was exposed to jobs at the post office and in grocery stores. They also visited a greenhouse and discussed related occupations, then built a garden and sand table and planted flower and vegetable seeds. If you've never planted parsley in a pumpkin or created a man with a crewcut by planting grass seed in Kleenex stuffed in an eggshell, talk to one of those kindergartners. They'll tell you how to do it.

Lola Blackey's fourth grade class at Jackson Elementary ran the gambit in exploring a job. LAPs in her classroom were entitled What Kind of Job Is It?; What Does the Job Pay?; What Must a Worker Be Able to Do?; What Must a Worker Be Like?; Schooling Needed; Good Things About the Job; Bad Things About the Job; Is This Job for You?

Mrs. Blackey's class explored the recreation field, then decided, after a visit from her son who attends the Naval Academy, to study the military service. One girl reported that she would like to be a Marine. She thought she'd like to wear hiking boots, although she didn't think she'd like the hiking. "I'd like to earn pins and badges and patches," she wrote. "Also, I would like to live it up on Saturday night."

Being somewhat of a Women's Libber, I asked several teachers what effect they thought career education had on girls' self-awareness and their attitudes toward career opportunities. One elementary teacher told me she thought it would have a profound effect. "This year, for the first time," she said, "I finished reading a book geared to boys and had a little girl raise her hand to say indignantly, 'Now read a girl's book!'"

Riverton sixth graders are taken to the mountains for three days in the spring to expose them to outdoor-related jobs. Some years they camp out for the three days; other years the camp operates as a day camp. Resource people from the recreation profession, the Game and Fish Commission, the Outdoor Leadership School, science teachers, geologists and



AUTO MECHANIC

HIGH SCHOOL BUILDING TRADES

LAPs

SCIENCE

AG

LAPs are mini units of subject matter which encourage students to explore and learn topics of their choice. Included in a LAP are the objectives, a suggested variety of ways to master them, and self-evaluations that enable the student to determine his mastery of the prescribed topic or idea.

purposes, and then the kids take the engines apart and put them back together again. Films from General Motors tying in various small engine repair occupations complete the unit, which takes about a month.

"One fifth of all work is done by engines," Holt says. "It makes sense for kids to learn about them."

Steve Campbell's fifth graders at Ashgrove Elementary study engines too. When we visited his classroom, one remaining lawn mower engine sat in a corner — but you had to look hard for it. A papier-mache dinosaur of some 15 feet inhabits the back third of the classroom. This particular dinosaur was once indigenous to Wyoming. After the dinosaur was completed by the fifth graders, younger elementary children visited the class and, role-playing as park rangers and forest service personnel, talked about it.

Behind the dinosaur, two tiers of cages contain various species of small animals. On top of the cages were several small rockets, reminders of a study on space. Campbell's class has also studied the bee industry and botany and occupations related to a greenhouse.

Career education at the elementary level consists of developing self- and career-awareness. At the junior high level occupations are explored in greater depth.

The junior high media center at Riverton will eventually have a stockpile of some 40 career orientation video-tapes — all of them prepared by the students themselves, including setting up interviews, running the equipment and taping the interviews. The school already has an extensive library of books on careers, as well as films and cassettes.

A sampling of career orientation LAPs in the junior high include: Who Am I?; Not All Clusters Are Grapes; Managing Money-Budgeting; Investigating the Choice of Careers; and How It All Fits Together.

Who Am I? includes a test of career-related abilities, and following completion of this LAP the students investigate and write reports in three areas, their high-scoring area, their low-scoring area and one of their own choice.

The junior high school conducted a "Career Day" last November. A survey of the students resulted in bringing in guest speakers from some 30 occupations; 251 students came to school on Saturday to participate.

The junior high newspaper, *The Express*, is printed monthly by the *Riverton Ranger*, but it is hoped that eventually the high school graphics classes will have the equipment to print it. *The Express* has won awards from both Quill and Scroll and the Columbia Scholastic Press Association. The two classes in journalism, taught by Mrs. Kathryn Currier, also write articles and take and develop their own pictures on school activities for the *Riverton Ranger*, which, in return, provides the classes with free film. The junior high dark room may be small and makeshift, but the quality of the work produced there is not.

Mrs. Currier also teaches Introduction to Creative Writing and Newspaper Production. One or two booklets of student-produced creative writing are in the planning stages.

The price of hamburger is currently a common topic of discussion for all of us. Some Riverton eighth graders may be more knowledgeable on this subject than many adults, because their geography classes have investigated all the occupations relating to beef production. Their study of manufacturing and industry began with selecting a site for industry. Role-playing as company management teams, the students were required to justify their site selection. Next, they became farmers, planned their crops and, working with climate, weather, topography, etc., discovered whether they were profitable or failed in agriculture.

The eighth graders have related their study of Wyoming to the world of work as they study the five major industries of the state.

Let's visit Riverton High School. Not too many years ago this was an extremely traditional school. Still imprinted in the

cement over the entrance doors are the words "Girls," where the girls entered, and "Boys," where the boys entered.

One of the comments we heard during our visit was that "Not everyone needs to go to school beyond high school. So we need to get them started in the right direction toward a career that will be meaningful not only to them but to society."

The industrial arts course includes the study of mechanical power, fluid power and electrical power; basic metals; plastics; leather; woodworking; and a limited amount of welding. An industrial arts course will be offered to ninth graders next year.

The auto mechanics classes presently use a facility of about 3600 square feet. Approximately 100 students are now enrolled in auto mechanics. I wished I'd had my car there so they could give it a good going over. This program is an open-entry one — one student had enrolled only a couple of weeks before.

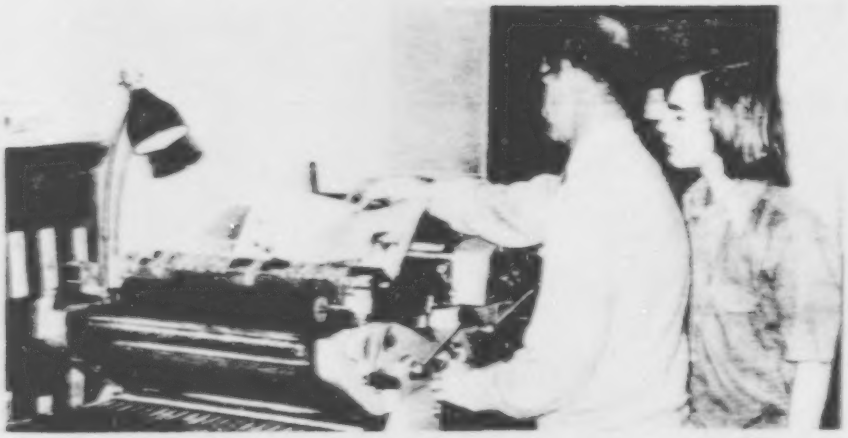
Students start at their own ability level and work at their own rate, beginning the next year where they quit the spring before. LAPs are used extensively. A few of the many that were mysteries to me were Electrical System, Drive Lines (broken up into Cranking and Charging), Springs and Shock Absorbers, Engine-Ignition Testing and Tuning.

One student, we were told, a potential dropout, had never liked math nor understood the necessity for it — until he came to a LAP in auto mechanics which required it. After several weeks at the math center he was doing problems in algebra — and knew why it was necessary. This is relevant education!

The career education office is presently housed in a trailer a block away from the high school. A small frame house next door contains overflow offices, with the kitchen and a small shed behind the house bulging with LAPs.

The student interested in work as a filling station attendant has, among others, the following LAPs to cover: Tires, Batteries, Sale of; Outline of Duties; Completing Sales Slips; State Sales Tax; Making Change; Daily Cash Reports; and Measurement, Bulk Storage Tanks.

Employment service packets included How to Fill Out Job Employment and Credit Application Forms, Filling Out Civil Service Tests, and Computing Deductions from Pay Checks. We browsed through other LAPs on Electical Wiring, Building Trades-Carpentry, Homemaking-Foods, Homemaking-Housing and Furnishing, and packets on Banking and Beef Cattle Production.



Bill Gilpin, graphics instructor, demonstrates how to "plate up" on the two-color press.

As you can see from the above LAPs, home economics courses at Riverton do more than teach girls how to cook and sew. Business courses teach more than typing and shorthand. All courses are taught from a practical rather than a theoretical standpoint. We observed a class in agri-business, which also included several girls, making mineral feeders, horse walkers and several implements I couldn't identify. I'm not sure I know an axle when I see one. These kids were making them.

Frank Stevens, instructor in distributive education, has about 20 students working outside the classroom this year; about 45 boys and girls are enrolled for next year. Some 24 different businesses have offered to act as job station sponsors.

Roger Eder, Sears manager, said, "Just from an economic standpoint, we get more production out of interested DE students per payroll dollar than we could from someone else." Eder involves his student employees in all aspects of his operation, from ordering displays to advertising to sales to budgeting.

Community involvement and support has been the key to the success of career education in Riverton. The business community has participated in every phase of the project, from planning to implementation. Businessmen serve on advisory committees, act as classroom consultants, provide equipment and give students the opportunity for on-the-job training.

General Motors donated some equipment to the auto mechanics program, and North's Ford of Riverton donated a complete engine and transmission. A number of students in auto mechanics and building trades are already placed in summer jobs. Art students have been decorating the display windows of a flower shop and a gift shop all year; one art student has now been given a full-time job in the flower shop.

Dr. Macon says he feels that career education will do a great deal in curbing the dropout problem. He also says that "employers are thrilled because they're saving a lot of time and money in training people."

Junior high students may take a course in exploratory welding. In senior high, welding is a two-year program for juniors and seniors. Again, the students start where they are. Some have no experience whatsoever; others have some experience from working with their fathers or on farms. The welding LAPs start with safety and the use of tools.

The course covers general refrigeration, aircraft, and heavy equipment or construction welding. During the second year the students specialize, and upon completion of the

advanced course they qualify as apprentice welders.

The graphics classes are held in a large room above the *Riverton Ranger* offices. Space is rented from the newspaper for $20 a month. Bill Gilpin, former art teacher and now graphics instructor, plans to go back to school for additional training in tearing down and re-assembling the many complex machines located in the department.

I can't — and won't try to — describe the Multilith 5, the two Multilith 1250s, the photo direct camera processor, the metal plate maker, the paper master, the Multilith 1870, the sign press, the engraving machine, the collator and the Line-O-Scribe sign machine that are located there. The 31 kids enrolled in graphics for two- and three-hour block periods not only operate them; they're learning how to take them apart and repair them. They do most of the printing work for the entire school district.

LAPs for the graphics program include Elementary Letter Press Printing, Typical Display Forms, Proofing and Proof Reading, Printing the School Newspaper, Composing Color Register Forms, and Selecting Type for a Job, among others. Lamination, air brushing, silk-screening and layout techniques are also covered in graphics.

As evidence of Riverton's total commitment to the career education concept, a new career education center is presently under construction. Cost of the center is $1,222,000; an additional $205,000 will be invested in equipment. When completed, the 64,600 square feet of floor space will house a media center, study areas, offices for the guidance counselor, and areas for the following career education components: office occupations, food services, graphics, health services (an exploratory course),

electronics and drafting, shop, building trades, agriculture, welding, auto mechanics, auto body, small engine repair, diversified occupations and distributive education.

The Riverton students enrolled in specialized high school courses are learning career *skills*. They have explored the various occupations and have selected one to pursue — but they are not locked into a particular job. They may advance to a further degree of specialization, or they may choose to drop one field and enter another.

Added leisure time has proven a mixed blessing. Too many people are ill-prepared for the extra hours of leisure time which we are supposed to "enjoy." An additional asset of career education is the probability that many young people will develop interests and skills in areas that, while not chosen as occupations, will provide pleasure and achievement during leisure time.

Career education is being introduced and implemented in many Wyoming schools, and one of the goals of the State Department of Education is the implementation of comprehensive career education programs in all schools in the state. State Superintendent Schrader believes that basic subject areas should be presented in an individualized way to make them relevant to a student's career interest. "That relevance can solve one of teaching's hardest problems," he says, "how to inspire students to want to learn."

I looked, during my visit, for evidence that the academic program at Riverton is suffering because of what some might call emphasis on "vocational" education. I found none. I doubt very much that we will lose doctors and teachers and attorneys as a result of career education. What we may very well gain is a blended society of human beings who work in careers they enjoy and for which they are well prepared, and who respect the interests and abilities of those who have chosen other occupations.

THE WYOMING EDUCATOR
Department of Education
State Capitol
Cheyenne, Wyoming 82001

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APPENDIX L

Instructional Objectives for Classroom Teachers

INSTRUCTIONAL OBJECTIVES FOR CLASSROOM TEACHERS

The following Instructional Objectives are intended only as models of properly stated objectives, to be further developed or revised by teachers. Teachers must feel free, as professionals, to change specific elements to meet their special conditions and student needs. However, the four elements of Behavioral Objectives, performer, observable behavior sought, given conditions, and criterion of success need to be included when changes are made.

Elementary (K-6)

1. On a chart naming various workers in the school, the student will indicate the workers specific tasks and contributions as they relate to the student's welfare stating such contributions as:

   student's health
   welfare of friends
   nutritional needs
   physical needs
   mental health
   social needs
   psycnological needs
   others

2. The student will construct a scrapbook showing five (5) occupations in the community. He then will give a 5 minute oral report to the teacher and the class explaining the contributions that the different workers representing occupations make to the community. He will use his scrapbook as a visual aid in his presentation.

3. The student, through interviews and guest lectures by different workers, will broaden his contact with workers in the community to the point where he (1) can list at least 15 names of workers and their jobs, (2) can tell where they work in the community, and (3) can list special responsibilities that each worker has.

4. Given four specific jobs the student will, through interviews, observation, classroom activities and his own research, find several differences between occupational skills used by workers in the four occupations. Furthermore, he will be able to identify at least one prerequisite skill for entrance into each occupation, show how the school prepares for these skills, and list at least one definite contribution that these jobs make to our society.

5. a. Given the occupations of professional football player, police work, radar operator on a submarine construction worker, school teacher, and ranch owner, the student will list which personal characteristics seem to qualify or disqualify him, at the present time, for those jobs. At least two self-characteristics should be listed for each of the above jobs.

   b. The student will identify one environmental factor that will, at this time, help or prevent his attainment of the occupations listed in (5a) above.

6. Given case histories of such men as Abraham Lincoln, George Washington Carver, King Farouk of Egypt, General Custer, and Art Linkletter the student will identify in writing the ways in which these men either maximized positive characteristics to achieve success or how negative characteristics led to their failure.

7. Given selected knowledge and skills of different school subjects and given knowledge of selected occupational roles, the student will be able to show how each of these is positively related by one or more of the following activities:

   a) constructing a chart showing specific relationship or usefulness of school subjects in the selected occupations

   b) role playing

   c) classroom listing and/or discussion of relationships

   d) etc.

8. Given specific school experiences, using selected sources of occupational information, the upper-level elementary student will be able to name, locate, and use selected occupational references by completing a data sheet on occupations he has selected.

9. a. Given classroom experiences geared to student needs and interests and provided with opportunities for active student involvement, the student will reveal his positive self-attitude by means of positive scores on one of the following:

a) an attitude inventory

b) a teacher check list based on observation

c) a peer group evaluation

d) a selected psychological test (Calif. Psych. Inven.)

e) by teacher-student conferences.

9. b. Given classroom experiences geared to student needs and interests and having opportunities for active student involvement, the student will demonstrate a positive attitude toward educational programs and occupational roles by such measures as (1) regular attendance (2) voluntary participation in school affairs, and (3) acceptance of responsibility and overt verbalization of positive attitudes toward different kinds of work.

10. a. Given a certain problem-solving situation in selected occupations (for example - police or fire department confronted with a major problem such as kidnaping or major fire) the student will be able to describe at least 10 or more instances of team work necessary to solve that given problem.

10. b. Given task-oriented or problem solving groups, the student will accept and carry out responsibilities for accomplishing the given task or solving the problem as measured by peer group and/or teacher evaluation, (for example - group process evaluation or accomplishment of task or solution of problem).

Junior High (7, 8, 9)

11. a. The student following personal research, interest inventory tests, a statement of personal hobbies, and group discussions will develop and state in writing some values and interests that he possesses at the present time.

11. b. After identification of his personal values, interests and capabilities, the student will identify and describe some broad occupational areas or clusters of interest to him, and demonstrate (by chart or in essay form) the correlation between his personal characteristics and at least two occupational areas or clusters.

12. Given a chart showing broad occupational areas or clusters, the student will be able to differentiate in writing between the several job areas or clusters using as criteria items such as satisfactions from job, nature of work, future of job, its contributions to society, possible health hazards, future living location, and other selected variables.

13. The student will identify six (6) occupations and show how the learning disciplines of mathematics, language arts, physical education, social studies, and fine arts prepare him for each occupation. (At least three applications of each academic discipline are required for each occupation.)

14. The student will describe, in essay form, at least 7 social and personal influences on the lives of individuals in levels of occupations, (e.g. auto mechanics, dentistry, sawmill worker, sanitation, garbage collector, politician, and policeman). The 7 influence areas have to be chosen from the following: effect as to size of community lived in, type of neighborhood lived/worked in, size of family, marriage, religious activity, financial independence, job satisfaction, clothes worn, etc.

15. The student will interview 5 different resource people and list five to ten decisions each of those people had to make to accept the jobs which they presently hold.

16. When called upon and based on present conditions, the student will explain in a 5 minute oral report how his academic background, financial status, religious convictions, family background, physical prowess, living environment, and the possible influence of outsiders will affect his future occupational decisions.

17. Given a brief overview of the 15 identified occupational clusters, the student will choose one broad occupational cluster and select two of the specific jobs in the cluster. Through identified activities by the instructor, the student will list education needed, potential earning power, hours per week at work, possible retirement benefits, health insurance, working conditions, and place of employment for the two jobs chosen from the cluster.

18. Given the major occupations that make up a teacher-selected broad occupational cluster, the student will be able to:

    a) classify on a chart the training and education needed by 10 of the specific jobs

    b) match a picture of a tool of the trade with the occupation in which it is used

    c) list 3 jobs which have provided him some service in the last month, and write or tell how it affected him.

    d) interview 3 people who work in occupations in cluster or invite them to speak to the class or write a letter to the class.

19. After listening to a guest speaker, the student will list 5 reasons why he would like to do what this person is doing or 5 reasons why he would not like to have his job.

20. a. The student will conduct a self-appraisal including information about his family structure and culture, an estimate of his personal assets, and the liabilities in his environment (what he believes he has going for him and in bibliographical form what obstacles he must overcome).

    b. After selected standardized testing, inventories, and individual counseling, the student will identify his personal capabilities, e.g. interests, personality traits, aptitudes, related to his own occupational desires by his responses to:

        a) profiles

        b) charts

        c) written essays

        d) other ways.

21. After research using such means as interviews, readings, multimedia, the student will trace the life-style of a rancher from pioneer days to the present day in an essay form or through an oral report (role-playing), or some other way.

22. After study of occupational clusters, specific job descriptions, and educational opportunities available to him, the student will propose a 4 year schedule which will fulfill the educational requirements for his career expectations, and have it checked by a guidance counselor.

23. Beginning with the U.S. Steel Company at Atlantic City, Wyoming, the student will trace (on a flow chart) the stages from mining to manufacture to the use of iron pipe in a construction site in California. He will include the 5 basic processes of exploration, mining, manufacturing, marketing and consuming, including a list of at least 5 jobs involved in each process stage listed above.

24. The student will demonstrate (in essay form) the role of human relations that makes it possible for the flow chart in objective 23 to function. He will show how human endeavors in areas such as communications, sociology, psychology, and education make it possible for the many parts of the flow chart to be functional and interact as one system toward producing the desired outcome.

25. The student will identify at least 3 items in each of the 5 stages mentioned in objectives 23 and 24 that have increased production, safety and leisure time or reduced health hazards and physical effort.

26. Given interviews, field trips, and job-oriented school activities on the eleven job clusters, the student will choose one cluster and:

    a) outline all the jobs in that cluster from the one with the lowest basic requirements to the highest classifications

    b) estimate the percentage of people employed in each job in relation to the total cluster

    c) list at least 5 general requirements for each job in the cluster

27. The student will select 3 occupations,(at least one of which is unskilled) which he would <u>not</u> choose under any circumstance. He then will explain in a 5 minute oral report to the class why the jobs he had selected are important to our society, why the wages these jobs earn are justified, how he or his family have made use of the services, and what the negative repercussions would be if these services were unavailable (e.g. strikes).

High School (10, 11, 12)

28. Given appropriate tests, measurements and self-inventories, the student will be able to identify his specific job requirements and skills towards fulfilling his career purpose by developing a personal profile (or written statement of needs).

29. The student will develop a specific written plan (or chart) to illustrate how he plans to implement or meet his career purposes based on personal needs or gaps as he perceives them.

30. After identification of knowledge, skills, attitudes or qualifications required for entry to one (or more) specific occupations, the student will develop a written learning plan or program for a specified time period that includes one or more of the following:

    a) taking appropriate occupational education in high school

    b) sampling or exploring on-the-job experience

    c) continuing his education in a 4 year college or university

    d) continuing his education in a post-secondary occupational institution (i.e. community college or trade technical school).

31. Upon entering the post-secondary phase of education, the student will examine his occupational goals through one or more of the following:

    a) conference with a college counselor to study and outline his tentative educational program

    b) seeking experiences in his selected job cluster through part-time activity or work or through summer employment

    c) stating in writing his personal criteria and expectations for occupational choice and his means of achieving this occupation

    d) identify the final choice point for preparing for a selected occupation

    e) stating in writing the specific occupational job he is aiming at or the cluster or clusters that he thinks meet his personal choices based on his ability, personality and past performance.

Post-Secondary (13, 14)

32. During the post-secondary phase of education, the student will re-examine his occupational goals in one or more of the following ways:

    a) in conference with a college counselor, review his tentative written educational program outline in light of his occupational goals

    b) state in writing his personal criteria and expectations for his occupational choice and his means of achieving this occupation

    c) evaluate orally or in writing any work experiences (if any) in his occupational cluster.

33. After completion of post-secondary educational training experiences related to a particular occupation, the student will find out about and apply for a specific occupation or occupational field and be offered employment in that occupation.

34. After employment in his specific occupation for a stated period of time, the employee will develop plans for one or more of the following:

    a) preparing for promotion on that job

    b) preparing for advanced degrees or educational training in order to maintain present level of knowledge and skills required of a changing occupation

    c) preparing for lateral movement or change of occupation within or outside his chosen occupation (e.g. working engineer to engineering administration).

    d) preparing for new occupations not yet known or based on career obsolescence

    e) other reasons.

SOURCES CITED

KISH, Leslie, Survey Sampling.
John Wiley & Sons, Inc., New York, 1967.

MORGAN, Robert L., An Approach To Evaluation: A Model For Evaluating The North Carolina Exemplary Project. in Report from the National Institute on Exemplary Projects in Vocational Education. An ERIC Project, July, 1970.

MOSS, Jerome, Technical Report No. 3; The Evaluation of Occupational Education Programs. September, 1968.

YASUI, Roy Y., Third-Party Independent Evaluation. Project No.: 0-361-0023; Contract No.: OEC-0-71-0579 (361), August 12, 1971.

APPENDIX M

Student Interviews

STUDENT INTERVIEWS

RIVERTON

Conducted by Mary Sandifer as part of the evaluation of the Career Education Project, on November 13, 1973.

As part of the evaluation of the Career Education Program I conducted interviews with groups of students at the High School and Junior High levels. These students all were members of the sample selected for testing and all volunteered for the interview which was conducted ananymously. Students were encouraged to say exactly what they thought about the Career Education program or any other aspect of the school program, and they were assured that their comments would remain ananymous. No member of the school staff was present, and I, myself, am not aware of the students' names. The following report is a summary of the discussions that took place with no attempt to interpret what was said or to relate it to other aspects of the evaluation program.

The students were interviewed in three different groups: A group from the senior high of about twelve students, a group of seven from grades 7 and 8, and about thirty students from the 9th grade. All groups were asked the same questions:

1. What is Career Education?
2. How has it helped you?
3. Where do you go to get information about careers?
4. How have you decided on your post-high school plans?

These were the only leading questions that were asked. Any other questions were for the purpose of probing for more information, such as: How do you feel about this? or, What did you do next? or, Would you like to find out more about this? etc.?

High School Interview

The high school students agreed that Career Education should be a means of providing each student with whatever training he needs regardless of his career plans. They agreed that Career Education should include college bound as well as non-college bound students.

In a system such as this, they agreed that a wide variety of courses would be needed. There were many complaints about scheduling problems which are very frustrating. None considered scheduling problems to be unavoidable.

Many of the students complained about the PASCAL program. This was not directly related to the subject of Career Education, but I made no attempt to stop the discussion, but simply listened to the comments that they made. They felt that it was "not fair to be so easy on them when all they have done is goof off." One student in the group attempted to explain the basic purposes of the PASCAL program.

All but two of the high school students had very definite plans for after graduation. Most of this group were seniors. NONE of these students attributed their plans to school sponsored activities. They reported that they had made their plans as a result of influence from their parents, or as a result of clubs to which they belonged. A few other sources were mentioned as having given assistance, but no other source was considered to be important by the students. Several reported that the counselors in the high school were "too busy to help." One girl did report that she had been able to get scholarship information from the counselors. When asked if they had approached any other staff members for help, the group laughed and reported that they wouldn't think of asking the staff for help in such a decision. They did say that once a career had been chosen, they sometimes asked teachers of related subjects about programs in that particular area. For instance,

a girl interested in nursing asked her science teacher for information about good nursing programs. They agreed that the only conversations that they had had with teachers on this subject were either casual or impromptu, that none of them had had any systematic help in obtaining information or making a decision about a career.

At this point, I asked the students if any of them had actively sought help in making such a decision. Very few had actively sought help and all stressed the need for more help and information, especially at this point in their lives.

Interview with Grades 7 and 8

This group was very vague about the entire concept of Career Education. When asked what it was, they reported that it was "boys wiring a house, or girls typing", and they added several other similar examples. When asked about college bound students specifically, several students said that it could "help them get started", but they were quite vague about what this meant. One student reported that Career Education meant that students could "talk to people." Presumably, they were referring to Career Days, but they were unaware of this term. They reported that they had not discussed occupations in classes, and none of them had had any general knowledge of occupational clusters, or any idea that they would some day have to make plans about choosing a career.

This group of students was quite small, only seven, and they were all volunteers. However, considering the intensity of the program and the fact that these students had been tested at least three times before, it seems that they should have been somewhat more aware of Career Education.

Interviews with 9th Grade

There was a marked contrast between this group and the group from the

7th and 8th grades. These students had very definite ideas about what Career Education should be. One student reported "Career Education helps kids find the right job and take courses for it". The students enthusiastically described testing with the OVIS and class discussions following it. They talked of procedures for matching students' talents and tastes to whatever jobs were available, and reported that they had enjoyed these group discussions in the orientation class. Most said that this activity had been personally beneficial to them. When asked where they had received their information and insight, they attributed everything to their orientation class, as did the high school students who had any information.

Some of this group had general ideas of their own career interest, but none had post-high school plans at this point.

Many of this group reported having sought and received help in obtaining career information. One student claimed he had sought help, but had not received it. All but one in this group were happy with the quality and amount of information that they had received.